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OF THE

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PREFATORY NOTE.

THE sectional work at Atlantic City seemed to be accomplished without much friction, and the plan of work followed encountered but little adverse criticism. The number of papers presented, although slightly increased over last year, made it possible to "lead" the pages of the Transactions. Every care has been taken to insure a correct report of the discussions, but the dilatoriness of many of the members in returning corrected proof has not only lessened the accuracv but has again delayed the appearance of the volume. New type has been used throughout the book, and every effort made to insure accuracy and dispatch. The Committee on Publication has given the manuscript careful consideration.

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181 West Seventy-third Street, New York City. Ian. 1, 1900.

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HELD AT

ATLANTIC CITY, N. J.,

JUNE 20, 1899.

FIRST DAY—AFTERNOON SESSION.

Atlantic City, June 20, 1899.

The Fifty-fifth annual session of the American Institute of Homœopathy was opened by President Benjamin F. Bailey in the Casino building of the Atlantic City Steel Pier at 4 o'clock P.M., June 20, 1899.

The President in opening the meeting made a few general remarks regarding the Institute, its purpose and scope, and declared the meeting open and called for the report of the Executive Committee. This report was read by the General Secretary, Eugene H. Porter, M.D.

REPORT OF THE EXECUTIVE COMMITTEE.

The Executive Committee would respectfully report that all the routine duties assigned to it by the By-Laws have been discharged. A special meeting of the committee was held in February, 1899, at 181 West Seventy-third Street, New York City, and the program for the Atlantic City meeting fully and carefully considered. The Executive Committee and the Local Committee have worked in perfect harmony and every effort has been made to further the best interests of the Institute.

A marked change has been made in the program. The time of the session has been reduced to four and a half days, and there is no intervening Sunday. Each section, however, has still one general meeting before the entire Institute, and at least one section meeting for the presentation of special or technical papers. It will be noted also that the sectional programs are carefully and definitely arranged, and full opportunity for discussion is given. It is hoped that all these changes will prove most helpful and advantageous and meet with the approval of the Institute.

The General Secretary has again been able by making certain changes and by constant watchfulness to reduce the cost of the Transactions over some previous years by over $1000. The taking out of the "leads" and printing the pages "solid" gives the page a blacker face and more crowded appearance, but it is the way most reports are preserved, and it effects a great saving. The volume for '99 was delayed because of the impossibility of getting in the corrected reports of discussions in any reasonable time, and further because of trouble at the printer's. To have printed the book without the papers or reports would have given an incomplete volume, and it was thought best to delay and print in full rather than in

arbitrary haste to print incompletely. Concerning the trouble at the printer's, the General Secretary has no terms at his present command that will adequately and fitly describe that episode.

The program and order of business may be found in full in the annual circular recently distributed among the members. We especially recommend that it be accepted as the order of business at this session.

EUGENE H. PORTER,
Secretary.

BENJ. F. BAILEY,
President.

In the absence of the Chairman of the Publication Committee, Secretary Porter read the following report, which was adopted:

REPORT OF THE PUBLICATION COMMITTEE.

The Committee on Publication presents to the Institute the Transactions for 1898.

In making up the volume it was decided (1) that preference should be given to papers presented, read and discussed; (2) papers read by title and referred to the Committee on Publication, if they were in the hands of the Secretary at the close of the sectional meeting, and (3) if space permitted those papers listed in the program, but not in the hands of the Institute nor coming to the Secretary until after the adjournment of the session. The delay in publication was unavoidable.

T. Y. KINNE,
Chairman.

The report of the Treasurer was then called, and the veteran Treasurer, E. M. Kellogg, M.D., of New York, responded. The report of the Treasurer was received and referred to the Auditing Committee. The Treasurer reported that the Institute finances were in a most satisfactory condition.

Dr. Kellogg, in a brief speech to the Institute, then stated that he had served thirty-three years as Treasurer, and declined a reelection.

An Auditing Committee was appointed as follows: H. E. Spaulding, M.D., Boston; R. Kingsman, M.D., Washington, D. C.; and N. B. Delamater, M.D, of Chicago.

REPORT OF THE TREASURER.

NEW YORK, June 19, 1899.

The American Institute of Homœopathy, in account with EDWIN M. KELLOGG, Treasurer, and THOS. FRANKLIN SMITH, Assistant Treasurer.

Receipts.

By Balance from last year	$85.43
" Cash received from Dues,	6136.00
" " " " Sale of "Repertory to Cyclopedia,"	52.00
" " " " " " Old Transactions,	2.50
	$6275.93

Disbursements.

To Cash paid	Materia Medica Conference Committee,	$5.00
" " "	Committee on Life Insurance,	30.00
" " "	Committee on Transportation,	51.75
" " "	Press Committee,	12.71
" " "	Interstate Committee,	16.53
" " "	Committee on Organization, Registration and Statistics,	168.92
" " "	Engrossing Certificates of Membership,	29.35
" " "	Rent of Mount Morris Safe Deposit Vault,	60.00
" " "	Institute Buttons,	55.00
" " "	Photographs for TRANSACTIONS,	4.48
" " "	Printing and Binding TRANSACTIONS of 1898,	2034.03
" " "	Expressing TRANSACTIONS,	309.46
" " "	Miscellaneous Printing,	326.71
" " "	Gould & Son, Part III. "Repertory,"	164.91
" " "	Eugene H. Porter, Salary, General Secretary,	1000.00
" " "	Eugene H. Porter, Postage, General Secretary,	116.99
" " "	Frank Kraft, Salary and Expenses Recording Secretary,	601.20
" " "	Treasurer's Expenses to Omaha,	124.20
" " "	Treasurer, Postage and Sundries,	299.93
" " "	Hahnemann Monument Fund,	600.00
Balance to new Account,		264.76
		$6275.93

Examined and found correct,

HENRY E. SPAULDING,
N. B. DELAMATER,
RICHARD KINGSMAN,
Auditing Committee.

The report of the Local Committee was then called, and A. W. Baily, M.D., of Atlantic City, responded, saying that the opening would be followed by a reception and hop in the ball-room of the Steel Pier, and that that would be followed by a smoker at the Hotel Rudolf Grotto.

Dr. Chase, of Cambridgeport, Mass., the oldest homœopathic physician in America to-day, was noticed in the audience and was especially invited by the president to a seat on the platform.

C. B. Kinyon, M.D., was appointed to fill a vacancy on the Board of Censors caused by the death of Dr. Rush.

The death of J. S. Mitchell, M.D., Chairman of the Committee on Resolutions, and the absence of other members, made necessary temporary appointments to serve through the session as follows:

C. H. Vilas, M.D., Chairman, Chicago, Ill.; W. A. Dewey, M.D., Ann Arbor; J. B. Gregg Custis, M.D., Washington; D. A. Foote, M.D., Omaha, and G. B. Rice, M.D., Boston.

Dr. Custis, of Washington, Chairman of the International Bureau of Homœopathy, then read his report, as follows:

Report of the International Bureau of Homœopathy.

The Bureau has sent out numerous inquiries as to the personnel, the standing, and the opportunities offered for homœopathic physicians in other countries than our own. Some responses have been received.

We want to call special attention to the condition in Hawaii. The present law is similar in many respects to those most common in our own country. Homœopathy seems to be well represented in Honolulu, and yet they call for more recruits. The authorities are fair and well disposed towards the school, though the allopathic physicians possess the same prejudice shown by our brethren in more rugged climates, the unwillingness to meet in consultation with members of our school. There is one hospital in Honolulu, which is under the control of the old school. Hawaii has no facilities for medical education, and consequently we present it as a fair ground for competition among our own colleges.

The conclusions, drawn up to date, from the investigations set on foot, are first, that Homœopathists abroad are very similar to Homœopathists in the United States, they are irrepressible, and neither governmental opposition, university oppression, nor professional bigotry can dampen their ardor. There are some exceptions to this, of course, notably one whose name I am not at liberty to give, a teacher in a German university, who recanted his faith in practise on threat of removal from his chair, but with that exception our colleagues in Europe and South America are worthy of our consideration and assistance. It is certainly our duty to confide our patrons traveling abroad directly to their care, and we hope soon to complete a register which will give the addresses of all in good standing.

The subject to which we have given most consideration is our status in the newly acquired territories, and special efforts have been made to learn of the educational facilities offered in them in order to encourage our colleges to enter into competition with other institutions of the country, believing that they will receive a large share of the students who will naturally come from so great an extent of territory.

At present all the territories are under laws which existed prior to their acquisition, but such will not be the case for any great length of time. We recommend that the Legislative Committee be especially instructed to watch any proposed legislation looking to the regulation of the practise of medicine in Hawaii, the Philippines, Cuba, and Porto Rico, that we may obtain equal recognition with the old school. We suggest the drawing of a law similar to the one enacted by the Government for the control of the practise of medicine in the District of Columbia, or the establishment of a Bureau whose seal upon a diploma will give the right to practise in any of the Territories of the United States. We further recommend that our colleges prepare themselves to teach all that can be known in regard to the cause, course, and treatment of the diseases peculiar to these climates, as well as to acquaint themselves with the

climatic conditions, in order that advice may be given to those of our citizens whose spirit of enterprise will lead them to seek at least temporary homes among our recently adopted brethren. We give this advice believing that by the use of Government agents, located in one place or the other, as the means of obtaining addresses of possible students, the classes in our colleges may be enlarged, especially when it becomes known that our colleges are making special efforts to cover the requirements of practitioners at their homes; and that the best results can be obtained from the missionary work, which we are under obligations to perform, when the gospel of Homœopathy falls from the lips of natives.

The Bureau feels that it has entered upon a work that will result in great good, not only to the school at home, but to its adherents all over the world. It asks for the coöperation of every member of the Institute.

In the absence of the Chairman of the Committee on Life Insurance, R. M. Richards, M.D., of Detroit, Mich., presented the report, which was adopted.

Report of Committee on Life Insurance.

To the Officers and Members of the American Institute of Homœopathy:

Your Committee of Life Insurance Examiners regret exceedingly that they cannot report a full year of aggressive work in extending the work of examinations for life insurance companies among Homœopathic physicians. The reason for this is the former President, Dr. Wright, was anxious to get an Eastern man to take the chairmanship, so that he would be in the locality where most of the active work would have to be done. His failure to secure one who would take sufficient interest in the work delayed him until near the close of his administration, when he asked the writer to assume the responsibility. It then required some time to get the necessary data from the former Chairman, Dr. Strickler, who was away from home at the time; so it was not until January that the present committee began its work. We have found the same difficulties expressed in former reports in getting accurate information either from the companies or their agents.

While all replies to correspondence disavow any intention to ignore Homœopaths, yet the facts remain that when they are appointed it is because no one else is available. It is a well-known fact that every company requires every applicant for an examinership to not only give the name of the college graduating him, but also to state *the school of medicine he follows in his practise.* The system of boycotting a company because it refuses to recognize us we believe only antagonizes. Work of this kind to be effectual should be conducted by personal interview more than by correspondence. We believe that an appropriation of $2000, to be expended in the expenses of a representative of this committee—fully armed

with facts—in calling upon the various large old line companies, would accomplish more in one month than twice this amount would accomplish in letter writing and shooting at long range.

Our President suggested to the Chairman of this committee the plan of inviting representatives of the various companies to meet us at Atlantic City at this time for a conference. This was suggested to some of the Eastern companies, but not one would agree to send such a representative. The old methods are worn out, and new ones must be tried; so it is desired by the committee that it be empowered to expend a sum not to exceed the amount named in furthering its work in the manner set forth.

Respectfully submitted,

R. MILTON RICHARDS,
Chairman.

The Chairman of the Board of Censors, Dr. George B. Peck, of Providence, R. I., made a report of 110 applicants for membership.

A letter was received from Dr. James C. Wood, M.D., of Cleveland, O., and read by the President. Dr. Wood stated in his communication that it would be impossible for him to be present at the Institute because of the alarming illness of Mrs. Wood.

J. H. McClelland, M.D., of Pittsburgh, Pa., moved that a message of sympathy be sent to Dr. Wood. The motion was unanimously adopted.

J. B. Garrison, M.D., New York, then read the report of the Committee on Transportation, as follows:

REPORT OF TRANSPORTATION COMMITTEE.

Mr. President:

Early in February I opened a correspondence with the Commissioner of the Trunk Line Association, asking for reduced rates to this meeting, and making a demand for a rate of a single fare for the round trip. After some delay, I received word from the Commissioner that the Trunk Line Association had decided they would grant no concessions to the meeting at Atlantic City, giving as a reason,—and I quote from a letter to me dated March 1st—"but for such a point as Atlantic City, with pressure of summer business at the time of your meeting, the members did not see how they could grant any other reduction than that offered through regular excursion fares, particulars of which can be learned at the offices of the several lines."

As rates to Atlantic City during the summer season are always made low, and in many instances lower than a fare and one-third, I wrote to inquire if, in case the matter was left as it was in the Trunk Line territory, those West could get the benefit of reduced rates, and received the following answer on March 6th:

"Your further communication of March 4th received. It is quite

true that your people cannot secure reduced fare on certificates from points west of Trunk Line territory without an invitation from this Association to the other Associations; such an invitation will not be issued, inasmuch as the lines at Atlantic City during the summer months, advise that they cannot handle business on the certificate plan. The trouble arises from your having selected a busy summer resort as the place of your meeting."

I at once answered this by saying that they assumed too much, as we had been assured that at this season of the year there would be no trouble in handling all business, and I demanded a reopening of the matter by their Association. On March 15 I received a letter from the Commissioner stating that they had taken the matter up again and had decided to grant us a rate of a fare and one-third for the round trip, which was accepted by all the other associations.

A short time ago it was brought to my attention that the American Medical Association, meeting at Columbus, O., had a rate of a single fare for the round trip. I proceeded at once to investigate this and received the following reply from the Trunk Line Commissioner, in answer to a demand from me that we be accorded the same terms and rates that were enjoyed by the American Medical Association.

"DEAR SIR: In reply to your letter of June 4th, I beg to say that this association cannot be governed by the action or customs of other associations. It is, however, the intention of our members to act consistently and without discrimination as to all meetings held in Trunk Line territory, and their action relative to your Atlantic City meeting is in accord therewith.

For your information I may also state that, while it is true the Central Passenger Association has made a one-fare rate locally within their territory on account of the American Medical Association meeting at Columbus, O., the Trunk Line Association have made, from their territory, a rate of fare and one-third, on the certificate plan.

"Very truly yours,

"L. P. FARMER,
"Commissioner."

This closed the incident, as further appeal could do no good. Desiring to thank the President and my associates for their valuable assistance, I am

Fraternally yours,
JOHN B. GARRISON,
Chairman.

Bushrod W. James, M.D., Philadelphia, presented a report on the restoration of Hahnemann's tomb, as follows:

REPORT ON THE RESTORATION OF HAHNEMANN'S TOMB.

The remains of Dr. Samuel Hahnemann, the founder of our school of medicine, were transferred last year from the Cemetery

of Montmartre in Paris to Pere Lachaise, a more prominent and popular cemetery, and placed in that part which has been allotted to distinguished men, especially those who have advanced any branch of science.

The adornment of his tomb and the placing of a suitable tablet upon the spot was found desirable, and a commission of five physicians, representing different countries, was formed for this purpose, consisting of Dr. Leon Brazol of Russia, Chairman; Dr. Francois Cartier of France, Secretary; Dr. Richard Hughes of England; Dr. Alexander Villers of Germany, and Dr. Bushrod W. James of the United States of America.

The members have fulfilled a portion of their duty in securing subscriptions from the Homœopathic physicians of the world, and the amount of money which has come into their hands for this purpose, since their appointment to the present time, is about fifteen thousand francs.

This will be utilized to the very best advantage for the purposes above indicated, together with any further offerings that may come in later.

The commission would very greatly have preferred to have received a larger amount, but they will do the best they can with the money received.

Very respectfully submitted,

BUSHROD W. JAMES,

Member of the International Commission for U. S. A.

FIRST DAY—EVENING SESSION.

A large and brilliant audience assembled in the auditorium in the evening to listen to the various addresses indicated by the program. After an invocation by Rev. Dr. Aikman, Judge J. H. Thompson gave an address of welcome, followed by Dr. A. W. Baily, Chairman of the Local Committee. President Benjamin F. Bailey made a brief and fitting response, and then delivered his presidential message:

ADDRESS OF WELCOME, A. W. BAILY, M.D.

Mr. President, Fellow Members of the American Institute of Homœopathy, Ladies and Gentlemen:

It is with peculiar pleasure that we welcome you this evening to our "'city by the sea," in this the fifty-fifth annual convention of the oldest national medical association in the United States; and as we extend to you, our brother physicians, this greeting, we as heartily welcome your wives and sweethearts, sons and daughters, who have accompanied you. But some who I see before me this

evening have no wives—but they have husbands, and we welcome your husbands and will endeavor to take care of them while you are enjoying the good things of the program that has been carefully prepared by our worthy President and Secretary and their helpers.

There are many reasons why we welcome you this evening. For one long year we have been looking forward to this hour with anticipated pleasure, and now it is here we welcome you because the constitution of the Institute declares that the object of the organization is the "improvement of Homœopathic therapeutics, and all other departments of medical science. These objects lie deep in your hearts, and it is to further them that you have left your homes and practices, and journeyed far to this place of meeting.

We welcome you for what we represent.—And what do we represent? The most active and progressive Homœopathic society in the whole world. What do we represent? The rank and file of our profession, not only in this country and Canada, but in many foreign countries as well. What do we represent? A truth as old as the world is old, the right interpretation of which has saved many a sufferer the torments of pain, prolonged many a life, restored many a sick one to health, eased many a death-bed. What do we represent? That which is best, highest, truest, noblest in medical science, and for this we welcome you.

We welcome you because we know that you have come here with the desire to learn, and with the desire to impart knowledge. Many of you have come in clubs and parties, and feel but little responsibility to those at home, but there are some here this evening who are the sole representatives of towns and communities and societies, and your brother practitioners at home are depending upon you to carry them a faithful and true report of all the good points you shall secure during the four days of this session. We welcome you for those you represent; we welcome you for all that you bring to us; we welcome you for what you are.

We welcome you because you are Homœopathists; followers of the immortal Hahnemann. Never before has Homœopathy attracted the attention that it is holding at the present hour! Since the day that Hahnemann first gave to the world our law of cure there has been no defeat, no drawn battle, no doubtful victory, but there has been one grand forward movement of success, gaining momentum with its onward rush, and you are in the vanguard, therefore we welcome you.

We bid you welcome for what may be accomplished at this meeting. You have come to us from all corners of our land and Canada,

and perchance there are some here from foreign countries also. But you are not strangers to us; we have heard of you before, for your patients have been in Atlantic City, breathing its health-giving air. Atlantic City is the Mecca of the invalid; thousands and tens of thousands of them come to us annually, many of them are here now, and will be attracted by this gathering. Hardly could this convention be held in any other city of our land from which would go out as widespread influence as from Atlantic City. We do not say this boastingly, though we are proud of our national reputation; from shore to shore visitors come to us, and were you to scan the registers of our hotels you would discover that there is hardly a State in our country but that has its representatives on our board-walk this evening, and hundreds come to us from over the line in Canada. These are not here for a few short days, deeply absorbed in some business scheme; but they are here for relaxation, for pleasure, for health; they will know of our meeting, read about it in the papers, discuss it in the hotel parlors, and return to their homes with a better knowledge and a higher appreciation of our law of cure. We bid you welcome, therefore, for what shall be accomplished at this meeting.

There are some here whom we greet for the first time,—our new members—and as we welcome you to our city we extend to you the right hand of fellowship. The American Institute of Homœopathy justly demands the support of every loyal follower of Hahnemann, and while Homœopathy is making rapid strides, and the followers are pushing into all corners of the globe, there are greater things to be accomplished than have yet been undertaken, and the very fact that you have joined the Institute will strengthen it just that much in this work. I would that your numbers were doubled, yea, thribbled, but we will work, we will wait, we will win all things.

To our women doctors we extend a special welcome. Our wives and the members of our Ladies' Club wish to meet and to know you, for they have planned for your amusement and pleasure when you are not busily engaged in discussing bones and drugs and microbes with your brother physicians. And to the ladies not physicians we extend a hearty greeting. We are glad that you are here to grace our meeting with your presence, to fill our hearts with joy, and to beautify all things with your beauty.

And now, Mr. President, Fellow Members of the Institute, Ladies, in the name of the Atlantic City Homœopathic Medical Club, in the name of our Ladies' Club, in the name of Homœopathy, I bid you welcome.

PRESIDENTIAL ADDRESS.

BENJAMIN F. BAILEY, M.D., LINCOLN, NEB.

On the anniversary of Hahnemann's birthday, April 10, 1844, at the Museum of Natural History in New York City, there was a meeting of the leading Homœopathic physicians of the United States, as the result of a call sent out by the Committee of the New York Society looking to the formation of a national society. This meeting was presided over by Dr. Constantine Hering, and the society formed at this time was called "The American Institute of Homœopathy."

The following preamble and resolutions were adopted:

"WHEREAS, The majority of the Allopathic physicians continue to deride and oppose the contributions to the materia medica that have been made by the Homœopathic school; and

"WHEREAS, The state of materia medica in both schools is such as imperatively demands a more satisfactory arrangement and greater purity of observation, which can only be obtained by associated action on the part of those who seek diligently for truth alone; and inasmuch as the state of the public information respecting the principles and practise of Homœopathy is so defective as to make it easy for mere pretenders to this very difficult branch of the healing art to acquire credit as proficients in the same;

"*Therefore, Resolved,* That it is deemed expedient to establish a society, entitled 'The American Institute of Homœopathy,' and the following are declared to be the essential purposes of the said Institute: First, the reformation and augmentation of materia medica. Second, the restraining of physicians from pretending to be competent to practise Homœopathy who have not studied it in a careful and skilful manner."

In 1846 the national medical convention was called for the organization of the so-called regular school. At a meeting in May, 1847, resolutions were passed by this school tending to prevent the spread of Homœopathy in the United States, resolving not to

accept the certificates of an "irregular" practitioner, and defining the followers of Hahnemann as belonging to an "irregular" school.

"No man is born into the world whose work is not born with him."—*Lowell.* Dr. Constantine Hering, Dr. John F. Gray, and that distinguished supporter of our school, William Cullen Bryant, were no exceptions to this rule. They were perhaps the prime movers in the formation of this, our American Institute. It was because they believed thoroughly and heartily in the truth of the law of similia. They looked upon it not as a convenience for the time, but as a sacred law of nature entrusted to the care of Hahnemann and his followers that it might by them redound to the alleviation of suffering and to the betterment of mankind. As Fiske has said, "On earth there will never be a higher creature than man"; but they believed that man should live upon a better earth and that in the course of evolution, as centralization progressed, as the country became towns, and the towns became cities, the "wind would be tempered to the shorn lamb," the laws of nature would be entrusted to the faithful of mankind, and God would give a better earth for man to live upon.

> "Once to every man and nation comes the moment to decide—
> In the strife of Truth with Falsehood, for the good or evil side;
> Then it is the brave man chooses while the coward stands aside."
> —*Lowell.*

These men knew that the time had come, the gauntlet was thrown down, that nothing but self-denial, organization and honesty could prevent truth from being "Forever on the scaffold, wrong forever on the throne."—*Lowell.*

It is for us to consider the difference in the position taken by our fathers in the Institute and by the fathers of the American Medical Association, to decide whether or not these positions were well taken, and whether or not we are warranted in following closely in the steps of those who have gone before us. We are told that the American Institute was formed for the purpose of "reformation and augmentation of materia medica," and for the purpose of restraining physicians from pretending to be competent to practise who have not studied in a "careful and skilful manner." The position of purification, the position of honesty, the position of progress, the building up, not the tearing down; but what was the reason for the organization of the American Medical Association? Not so much the desire to build up as the desire to tear down; not the reaching out to investigate the new, but the determination to prevent its advance. I am willing to accept this history of the past as the evi-

dent trend of to-day. That the same reasons exist for our continued work as an organized body that existed in 1844 I am positive; that renewed reasons exist which we should carry out in the same spirit, the desire to build up and to march on in the course set by nature, I am sure; that for the last few years we have been lax in carrying out the privileges of our organization, is true. We must be leaders rather than followers, determining what our work shall be as scientific men and women, providing means for carrying out the work that is determined to be ours, sparing neither self nor others in the charge upon the barracks of nature, giving to her no other terms than "an unconditional and immediate surrender" as we knock at her doors and listen for the coming footsteps of those who are ready to hear and "prove all things, holding fast that which is good."

The law of similia has been abundantly proven in the hundred years that have passed since it was first recognized by Hahnemann as one of Nature's laws of cure. For a few years Hahnemann and his earlier successors labored on faithful to their trust, forming for use the materia medica which has been our strength and our support for many years. Many centuries ago Du Chauliac said of the sciences, and especially of medicine: "They are created by successive additions. We are as children carried on the neck of a giant; aided by the labors of our predecessors we see all they have seen and something besides. The same man cannot lay a foundation and perfect the superstructure."

We admit this truth, but we have not acted upon it. With the wonderful results which our school has accomplished in the practise of medicine under the law of similia by the use of materia medica which was largely formed in the early part of the century without recourse to the many methods of scientific study which are to-day ours; with almost no idea of the powers of prophylaxis, what might we not accomplish by the continuation of the proving of new remedies and by the revising of the old with the help in each proving of the biological, microscopical and chemical laboratory? To-day we search for the well defined indication of the remedy to be used in diseases of the kidney. The decision of our prescription is fairly successful because of the light of experience which illumines our way, but how much more successful it might be if these provings were made with continued urinary analysis, both microscopical and chemical, so that our prescription might be exact rather than general. The same might be true in studying by the microscope the changes in the blood under the effect of different remedies, and

watching the different actions of the microbes as the fluids of the body are changing with the exhibition of the remedies to be proven. This is a work that in these days can only be done by organized bodies with money at their disposal, with scientific men thoroughly equipped, and with a profession who realize that they live not for themselves alone, but also for others. It is not that we doubt Hahnemann, but we revere him. "Time as he grows old teaches many lessons."—*Æschylus.* And "It takes a long time to bring excellence to maturity."—*Publius.* To perfect what we have received and to do honor to the noble Hahnemann by carrying on the work which he began, but which no one man could finish, is the duty of the American Institute of Homœopathy.

I recommend the appointment of a committee by the American Institute of Homœopathy and the placing of a reasonable amount of money at the disposal of said committee, to make a beginning in the work which we have reviewed, by carrying on during the coming year the reproving of a certain number of our old remedies, the same to be done with a view to studying by the microscope and by the chemical laboratory the effects of said remedies upon the urinary secretions. In order that this may be done accurately, I recommend that there be enlisted in the work the most careful observers, and that the provings be carried on through the use of subjects selected on account of their special fitness, kept under proper surveillance and paid for their use. In this way and this only can we improve our materia medica. An attempt to prove and prove scientifically upon the persons of students and voluntary subjects is at this day and time impracticable; but by carrying on this work in the way suggested, each year taking up the provings with a view of studying specifically and scientifically some special organs or biological sphere, we may build up the materia medica and receive from the now immortal Hahnemann the words "well done, good and faithful servants." This, our duty to our materia medica. But we have other duties equally strong, and without which I fear we have not the right to recognition as earnest and honest scientific observers. Huxley says, "Decartes consecrated doubt"; but Decartes himself said, "For all that, I did not imitate the skeptics who doubt only for doubtings' sake and pretend to be always undecided; on the contrary, my whole intention was to arrive at certainty, and to dig away the drift and the sand until I reach the rock or the clay beneath." He also said, in stating the four maxims of his life, that the last and greatest was to "make the search after truth the business of his life."

I fear that the members of our profession are much like mankind in general, inclined to be extremists in one or the other direction, either to doubt everything, not with the desire to seek for the truth, believing all things, but like the one who, willing to be convinced, would like to see the one who could convince him; or else the other extreme that seizes upon every new thing until, without study, their whole life and practice is but a continued course of superficial experiment. Let us rather take conservatism as our rule, remembering that our law of similia is one of the great laws of nature, one of the ultimate facts, but with Emerson we may know that "every ultimate fact is only the first of a new series." Every general law only a particular fact of some more general law presently to disclose itself. There is no outside, no enclosing circle, no circumference to us. The man finishes his story,—how good! how final! how he puts a new face on all things! he feels the sky. Lo, on the other side rises also a man and draws a circle around the circle we had just pronounced the outline of the sphere. But every circle is complete within itself. "Think not thy word and thine alone must be right."—*Sophocles.* "Slight not what's near, though aiming at what's far."—*Euripides.* Remember with Bouchard that "The causes of disease are innumerable; but in order to attack and conquer us they must be associated, as without this necessity they would no doubt have annihilated the human species." To quote further from Bouchard: "If nerve reaction, by corrupting for the moment nutrition, can produce the morbid opportunity, it may also modify nutrition in a lasting manner, and develop diathesis, but it will be the acquired diathesis, the permanent disturbance of nutrition." Then that sage assertion, "What renders possible the development of an infective disease is not the chance meeting of man and microbe," and his resultant assumption from this "The healthy man is not attractive to the microbe," and from these well-proven theories we can but naturally deduce the theory that man has the right to be well born, to fill out the measure of his days, and to die like the ripened grain. This because the Creator designed a perfect man with protection from foes within and without. By perfect physiological functions he is protected from the ills of auto-intoxication, and is unassailable by those little microbes of disease that are continually seeking whom they may devour; those "Little foxes that spoil the vines." "It is only the ignorant who despise education."—*Publius.* The American Institute is made up of the cultured men of the profession; our only aim to learn, to teach to use; admitting that many infective diseases are due to microbes and bacilli, that many

Report of the International Bureau of Homœopathy.

The Bureau has sent out numerous inquiries as to the personnel, the standing, and the opportunities offered for homœopathic physicians in other countries than our own. Some responses have been received.

We want to call special attention to the condition in Hawaii. The present law is similar in many respects to those most common in our own country. Homœopathy seems to be well represented in Honolulu, and yet they call for more recruits. The authorities are fair and well disposed towards the school, though the allopathic physicians possess the same prejudice shown by our brethren in more rugged climates, the unwillingness to meet in consultation with members of our school. There is one hospital in Honolulu, which is under the control of the old school. Hawaii has no facilities for medical education, and consequently we present it as a fair ground for competition among our own colleges.

The conclusions, drawn up to date, from the investigations set on foot, are first, that Homœopathists abroad are very similar to Homœopathists in the United States, they are irrepressible, and neither governmental opposition, university oppression, nor professional bigotry can dampen their ardor. There are some exceptions to this, of course, notably one whose name I am not at liberty to give, a teacher in a German university, who recanted his faith in practise on threat of removal from his chair, but with that exception our colleagues in Europe and South America are worthy of our consideration and assistance. It is certainly our duty to confide our patrons traveling abroad directly to their care, and we hope soon to complete a register which will give the addresses of all in good standing.

The subject to which we have given most consideration is our status in the newly acquired territories, and special efforts have been made to learn of the educational facilities offered in them in order to encourage our colleges to enter into competition with other institutions of the country, believing that they will receive a large share of the students who will naturally come from so great an extent of territory.

At present all the territories are under laws which existed prior to their acquisition, but such will not be the case for any great length of time. We recommend that the Legislative Committee be especially instructed to watch any proposed legislation looking to the regulation of the practise of medicine in Hawaii, the Philippines, Cuba, and Porto Rico, that we may obtain equal recognition with the old school. We suggest the drawing of a law similar to the one enacted by the Government for the control of the practise of medicine in the District of Columbia, or the establishment of a Bureau whose seal upon a diploma will give the right to practise in any of the Territories of the United States. We further recommend that our colleges prepare themselves to teach all that can be known in regard to the cause, course, and treatment of the diseases peculiar to these climates, as well as to acquaint themselves with the

climatic conditions, in order that advice may be given to those of our citizens whose spirit of enterprise will lead them to seek at least temporary homes among our recently adopted brethren. We give this advice believing that by the use of Government agents, located in one place or the other, as the means of obtaining addresses of possible students, the classes in our colleges may be enlarged, especially when it becomes known that our colleges are making special efforts to cover the requirements of practitioners at their homes; and that the best results can be obtained from the missionary work, which we are under obligations to perform, when the gospel of Homœopathy falls from the lips of natives.

The Bureau feels that it has entered upon a work that will result in great good, not only to the school at home, but to its adherents all over the world. It asks for the coöperation of every member of the Institute.

In the absence of the Chairman of the Committee on Life Insurance, R. M. Richards, M.D., of Detroit, Mich., presented the report, which was adopted.

Report of Committee on Life Insurance.

To the Officers and Members of the American Institute of Homœopathy:

Your Committee of Life Insurance Examiners regret exceedingly that they cannot report a full year of aggressive work in extending the work of examinations for life insurance companies among Homœopathic physicians. The reason for this is the former President, Dr. Wright, was anxious to get an Eastern man to take the chairmanship, so that he would be in the locality where most of the active work would have to be done. His failure to secure one who would take sufficient interest in the work delayed him until near the close of his administration, when he asked the writer to assume the responsibility. It then required some time to get the necessary data from the former Chairman, Dr. Strickler, who was away from home at the time; so it was not until January that the present committee began its work. We have found the same difficulties expressed in former reports in getting accurate information either from the companies or their agents.

While all replies to correspondence disavow any intention to ignore Homœopaths, yet the facts remain that when they are appointed it is because no one else is available. It is a well-known fact that every company requires every applicant for an examinership to not only give the name of the college graduating him, but also to state *the school of medicine he follows in his practise.* The system of boycotting a company because it refuses to recognize us we believe only antagonizes. Work of this kind to be effectual should be conducted by personal interview more than by correspondence. We believe that an appropriation of $2000, to be expended in the expenses of a representative of this committee—fully armed

with facts—in calling upon the various large old line companies, would accomplish more in one month than twice this amount would accomplish in letter writing and shooting at long range.

Our President suggested to the Chairman of this committee the plan of inviting representatives of the various companies to meet us at Atlantic City at this time for a conference. This was suggested to some of the Eastern companies, but not one would agree to send such a representative. The old methods are worn out, and new ones must be tried; so it is desired by the committee that it be empowered to expend a sum not to exceed the amount named in furthering its work in the manner set forth.

Respectfully submitted,

R. MILTON RICHARDS,
Chairman.

The Chairman of the Board of Censors, Dr. George B. Peck, of Providence, R. I., made a report of 110 applicants for membership.

A letter was received from Dr. James C. Wood, M.D., of Cleveland, O., and read by the President. Dr. Wood stated in his communication that it would be impossible for him to be present at the Institute because of the alarming illness of Mrs. Wood.

J. H. McClelland, M.D., of Pittsburgh, Pa., moved that a message of sympathy be sent to Dr. Wood. The motion was unanimously adopted.

J. B. Garrison, M.D., New York, then read the report of the Committee on Transportation, as follows:

REPORT OF TRANSPORTATION COMMITTEE.

Mr. President:

Early in February I opened a correspondence with the Commissioner of the Trunk Line Association, asking for reduced rates to this meeting, and making a demand for a rate of a single fare for the round trip. After some delay, I received word from the Commissioner that the Trunk Line Association had decided they would grant no concessions to the meeting at Atlantic City, giving as a reason,—and I quote from a letter to me dated March 1st—"but for such a point as Atlantic City, with pressure of summer business at the time of your meeting, the members did not see how they could grant any other reduction than that offered through regular excursion fares, particulars of which can be learned at the offices of the several lines."

As rates to Atlantic City during the summer season are always made low, and in many instances lower than a fare and one-third, I wrote to inquire if, in case the matter was left as it was in the Trunk Line territory, those West could get the benefit of reduced rates, and received the following answer on March 6th:

"Your further communication of March 4th received. It is quite

true that your people cannot secure reduced fare on certificates from points west of Trunk Line territory without an invitation from this Association to the other Associations; such an invitation will not be issued, inasmuch as the lines at Atlantic City during the summer months, advise that they cannot handle business on the certificate plan. The trouble arises from your having selected a busy summer resort as the place of your meeting."

I at once answered this by saying that they assumed too much, as we had been assured that at this season of the year there would be no trouble in handling all business, and I demanded a reopening of the matter by their Association. On March 15 I received a letter from the Commissioner stating that they had taken the matter up again and had decided to grant us a rate of a fare and one-third for the round trip, which was accepted by all the other associations.

A short time ago it was brought to my attention that the American Medical Association, meeting at Columbus, O., had a rate of a single fare for the round trip. I proceeded at once to investigate this and received the following reply from the Trunk Line Commissioner, in answer to a demand from me that we be accorded the same terms and rates that were enjoyed by the American Medical Association.

"DEAR SIR: In reply to your letter of June 4th, I beg to say that this association cannot be governed by the action or customs of other associations. It is, however, the intention of our members to act consistently and without discrimination as to all meetings held in Trunk Line territory, and their action relative to your Atlantic City meeting is in accord therewith.

For your information I may also state that, while it is true the Central Passenger Association has made a one-fare rate locally within their territory on account of the American Medical Association meeting at Columbus, O., the Trunk Line Association have made, from their territory, a rate of fare and one-third, on the certificate plan.

"Very truly yours,

"L. P. FARMER,
"Commissioner."

This closed the incident, as further appeal could do no good. Desiring to thank the President and my associates for their valuable assistance, I am

Fraternally yours,
JOHN B. GARRISON,
Chairman.

Bushrod W. James, M.D., Philadelphia, presented a report on the restoration of Hahnemann's tomb, as follows:

REPORT ON THE RESTORATION OF HAHNEMANN'S TOMB.

The remains of Dr. Samuel Hahnemann, the founder of our school of medicine, were transferred last year from the Cemetery

of Montmartre in Paris to Pere Lachaise, a more prominent and popular cemetery, and placed in that part which has been allotted to distinguished men, especially those who have advanced any branch of science.

The adornment of his tomb and the placing of a suitable tablet upon the spot was found desirable, and a commission of five physicians, representing different countries, was formed for this purpose, consisting of Dr. Leon Brazol of Russia, Chairman; Dr. Francois Cartier of France, Secretary; Dr. Richard Hughes of England; Dr. Alexander Villers of Germany, and Dr. Bushrod W. James of the United States of America.

The members have fulfilled a portion of their duty in securing subscriptions from the Homœopathic physicians of the world, and the amount of money which has come into their hands for this purpose, since their appointment to the present time, is about fifteen thousand francs.

This will be utilized to the very best advantage for the purposes above indicated, together with any further offerings that may come in later.

The commission would very greatly have preferred to have received a larger amount, but they will do the best they can with the money received.

Very respectfully submitted,

BUSHROD W. JAMES,

Member of the International Commission for U. S. A.

FIRST DAY—EVENING SESSION.

A large and brilliant audience assembled in the auditorium in the evening to listen to the various addresses indicated by the program. After an invocation by Rev. Dr. Aikman, Judge J. H. Thompson gave an address of welcome, followed by Dr. A. W. Baily, Chairman of the Local Committee. President Benjamin F. Bailey made a brief and fitting response, and then delivered his presidential message:

ADDRESS OF WELCOME, A. W. BAILY, M.D.

Mr. President, Fellow Members of the American Institute of Homœopathy, Ladies and Gentlemen:

It is with peculiar pleasure that we welcome you this evening to our "'city by the sea," in this the fifty-fifth annual convention of the oldest national medical association in the United States; and as we extend to you, our brother physicians, this greeting, we as heartily welcome your wives and sweethearts, sons and daughters, who have accompanied you. But some who I see before me this

evening have no wives—but they have husbands, and we welcome your husbands and will endeavor to take care of them while you are enjoying the good things of the program that has been carefully prepared by our worthy President and Secretary and their helpers.

There are many reasons why we welcome you this evening. For one long year we have been looking forward to this hour with anticipated pleasure, and now it is here we welcome you because the constitution of the Institute declares that the object of the organization is the "improvement of Homœopathic therapeutics, and all other departments of medical science. These objects lie deep in your hearts, and it is to further them that you have left your homes and practices, and journeyed far to this place of meeting.

We welcome you for what we represent.—And what do we represent? The most active and progressive Homœopathic society in the whole world. What do we represent? The rank and file of our profession, not only in this country and Canada, but in many foreign countries as well. What do we represent? A truth as old as the world is old, the right interpretation of which has saved many a sufferer the torments of pain, prolonged many a life, restored many a sick one to health, eased many a death-bed. What do we represent? That which is best, highest, truest, noblest in medical science, and for this we welcome you.

We welcome you because we know that you have come here with the desire to learn, and with the desire to impart knowledge. Many of you have come in clubs and parties, and feel but little responsibility to those at home, but there are some here this evening who are the sole representatives of towns and communities and societies, and your brother practitioners at home are depending upon you to carry them a faithful and true report of all the good points you shall secure during the four days of this session. We welcome you for those you represent; we welcome you for all that you bring to us; we welcome you for what you are.

We welcome you because you are Homœopathists; followers of the immortal Hahnemann. Never before has Homœopathy attracted the attention that it is holding at the present hour! Since the day that Hahnemann first gave to the world our law of cure there has been no defeat, no drawn battle, no doubtful victory, but there has been one grand forward movement of success, gaining momentum with its onward rush, and you are in the vanguard, therefore we welcome you.

We bid you welcome for what may be accomplished at this meeting. You have come to us from all corners of our land and Canada,

and perchance there are some here from foreign countries also. But you are not strangers to us; we have heard of you before, for your patients have been in Atlantic City, breathing its health-giving air. Atlantic City is the Mecca of the invalid; thousands and tens of thousands of them come to us annually, many of them are here now, and will be attracted by this gathering. Hardly could this convention be held in any other city of our land from which would go out as widespread influence as from Atlantic City. We do not say this boastingly, though we are proud of our national reputation; from shore to shore visitors come to us, and were you to scan the registers of our hotels you would discover that there is hardly a State in our country but that has its representatives on our board-walk this evening, and hundreds come to us from over the line in Canada. These are not here for a few short days, deeply absorbed in some business scheme; but they are here for relaxation, for pleasure, for health; they will know of our meeting, read about it in the papers, discuss it in the hotel parlors, and return to their homes with a better knowledge and a higher appreciation of our law of cure. We bid you welcome, therefore, for what shall be accomplished at this meeting.

There are some here whom we greet for the first time,—our new members—and as we welcome you to our city we extend to you the right hand of fellowship. The American Institute of Homœopathy justly demands the support of every loyal follower of Hahnemann, and while Homœopathy is making rapid strides, and the followers are pushing into all corners of the globe, there are greater things to be accomplished than have yet been undertaken, and the very fact that you have joined the Institute will strengthen it just that much in this work. I would that your numbers were doubled, yea, thribbled, but we will work, we will wait, we will win all things.

To our women doctors we extend a special welcome. Our wives and the members of our Ladies' Club wish to meet and to know you, for they have planned for your amusement and pleasure when you are not busily engaged in discussing bones and drugs and microbes with your brother physicians. And to the ladies not physicians we extend a hearty greeting. We are glad that you are here to grace our meeting with your presence, to fill our hearts with joy, and to beautify all things with your beauty.

And now, Mr. President, Fellow Members of the Institute, Ladies, in the name of the Atlantic City Homœopathic Medical Club, in the name of our Ladies' Club, in the name of Homœopathy, I bid you welcome.

PRESIDENTIAL ADDRESS.

BENJAMIN F. BAILEY, M.D., LINCOLN, NEB.

On the anniversary of Hahnemann's birthday, April 10, 1844, at the Museum of Natural History in New York City, there was a meeting of the leading Homœopathic physicians of the United States, as the result of a call sent out by the Committee of the New York Society looking to the formation of a national society. This meeting was presided over by Dr. Constantine Hering, and the society formed at this time was called "The American Institute of Homœopathy."

The following preamble and resolutions were adopted:

"WHEREAS, The majority of the Allopathic physicians continue to deride and oppose the contributions to the materia medica that have been made by the Homœopathic school; and

"WHEREAS, The state of materia medica in both schools is such as imperatively demands a more satisfactory arrangement and greater purity of observation, which can only be obtained by associated action on the part of those who seek diligently for truth alone; and inasmuch as the state of the public information respecting the principles and practise of Homœopathy is so defective as to make it easy for mere pretenders to this very difficult branch of the healing art to acquire credit as proficients in the same;

"*Therefore, Resolved,* That it is deemed expedient to establish a society, entitled 'The American Institute of Homœopathy,' and the following are declared to be the essential purposes of the said Institute: First, the reformation and augmentation of materia medica. Second, the restraining of physicians from pretending to be competent to practise Homœopathy who have not studied it in a careful and skilful manner."

In 1846 the national medical convention was called for the organization of the so-called regular school. At a meeting in May, 1847, resolutions were passed by this school tending to prevent the spread of Homœopathy in the United States, resolving not to

secure the general comfort, health and prosperity of the State." On the same page Judge Cooley himself says: "All that the Federal government can do is to see that the States do not, under cover of this power, invade the sphere of national sovereignty or deprive any citizen of rights guaranteed by the Federal Constitution. On page 722 of the same book we find Judge Cooley saying: "It is not doubted that Congress has the power to go beyond the general regulations of commerce which it is a custom to establish and descend to the most minute directions, if it shall be deemed advisable, and that to whatever extent grounds shall be covered by these directions the exercise of State power is excluded. Congress may establish police regulations as well as the States, confining their operation to the subjects over which it is given control by the constitution."

Under these interpretations of the constitution all quarantine and health laws which are enforced by the government have been founded, and in providing for the "general welfare" it is reasonable to suppose that the government may provide for the proper education of those citizens to whom shall be delegated the care of its people during times of sickness and epidemic, and to say that the "States shall not invade the sphere of the national sovereignty or deprive any citizen of rights guaranteed by the Federal Constitution." The Bureau of Agriculture of the United States was established under these interpretations of the constitution. The only way that the government can administer according to these interpretations of the constitution is to bring our medical colleges under the control of a national board which shall make a standard and see that it is adhered to; the same to be done by the power of Congress under the articles of the constitution providing for the public welfare and by the construction of the constitution which Judge Cooley says "may in certain cases for the public good permit the Federal government to assume police power as over the States for the protection which it has guaranteed its citizens." Under these conditions a degree issued by any college in the United States would confer the right to practise medicine in any State in the Union or in any country in the world. I would suggest that a committee of the American Institute invite a conference with a like committee from the American Medical Association and from the National Eclectic Association, and that every effort be made to secure the passage of a bill through Congress providing for a national board properly comprised of the three schools, each school to have control of its own colleges.

It is only necessary to say in regard to the Hahnemann monument that through an injustice and a narrow-minded opposition, that seems impossible in this day and generation, we were by Congress denied a site for this beautiful monument, which stands completed and ready for erection. I am positive that our Monument Committee, together with the Washington profession, will see to it that such injustice does not occur at the next session of Congress; and I am equally sure that when the proper time comes in the program of this session for our most efficient and faithful Monument Committee to present its work, the members of the American Institute will extend to them the courtesy of a large, yes, full attendance of the membership present in Atlantic City, and that they will show their loyalty and their recognition of the grand self-denying and thoroughly unselfish life of Hahnemann by seeing to it that this session of the Institute does not adjourn until every cent is subscribed or provided for that is necessary to allow us to dedicate this monument of Hahnemann at an early day and free from debt.

It has been one of the most sincere wishes of my heart that it should be possible to accomplish this, and I believe I know the personnel of this Institute well enough to rest happy this day in the assurance that they will not deprive me of my convictions of success.

It is in the aggressive work for the betterment of our profession that we acquire the right to recognition and professional dignity. The past has given us a record of which we are proud, the future shall be what we make it. During the last year we have lost a Ludlam, a Mitchell, a Hoyne, a Smith, a Rush; men who have been bulwarks of strength in our school. Men who have helped to make our positions strong, who have smoothed the way for our daily work and have largely made us what we are. As the strife for supremacy becomes greater, as greater civilization makes it more difficult to attain a foothold, as the greater perfection of science carries the top of the ladder higher, we need strong men, we need enthusiasm, we need devotion, we need numbers and we need financial support. Whether or not we shall have these depends upon the earnestness of those who are now members of the American Institute and the support given to us by the profession who are not now members. It has been a startling thing to me to learn how great a proportion of the profession, knowing little or nothing of the work of our great national body, have been absorbing its results, living under the sunshine of its benign influence, and forgetting

their entire duty to their mother in medicine. This is not altogether the fault of the profession at large, but is in a great sense the fault of the working plan of the Institute. We have not been aggressive enough in letting our light shine before men. What the best method may be to make this light brighter so as to illumine the sanctum of every member of our profession has been to me something of a question. The American Medical Association publishes its transactions in the form of a weekly journal; that weekly journal, issued by the secretary, who receives a salary large enough to give his entire time to the work of the association, is sent gratis to every member of the Association who has paid his annual dues. I am told that this journal has very largely increased the membership of the American Medical Association, has increased its income and at the same time has rather built up than pulled down the other medical journals of the profession. I believe if the American Institute were to publish its transactions, together with the best productions of the pens of the members of our school, in a bi-weekly journal, a thorough canvass being made for new members in the American Institute, each member to receive this journal gratis upon the payment of his fees, that we would come much more closely in touch with the members of our profession, and that we would within one short year, through the inducements offered by and through our journal of transactions, find ourselves with a trebled membership, a full treasury, and that other journals of our school would be raised in standard and increased in circulation. I make this as a recommendation which we may carefully consider.

In the matter of new membership, greater effort should be made to enlist as members the graduates of our colleges at each annual commencement. It keeps them in touch with the profession, seals their loyalty, and gives to the Institute the vitality of youth. Our older colleagues who are not members with us should have even *forced* upon their notice the work of the Institute, and their bounden duty to it. His is a selfish life "who much receives but nothing gives." Every member of the Homœopathic school receives; is there one who will nothing give? Upon the Executive Committee of the Institute rests the obligation to so arrange the work that more may be enlisted in the field, for the field is broad and there is work enough to do, and where a man's work is there is his heart also. The rule should be unchangeable, that a member be only asked or allowed to fill one position in any one year; but he should be expected to fill that *well.* The older members of the Institute should vie with each other in an effort to become acquainted with the

new and younger members, while in turn the younger men of the profession should seek acquaintance with their elders and give to them by their love and loyalty the encouragement and respect which they have earned.

Members of the American Institute of Homœopathy, I thank you to-night most heartily for the honor which you have conferred upon the Western members by entrusting to the care of one of their number for one short year the office of the presidency of the American Institute of Homœopathy. To the Western members of the American Institute I extend my most earnest and heartfelt gratitude for the greatest honor of my life in their selection of me as their representative to fill the position to which the Institute has chosen me. I assure you that my heart and my affection have been entirely given to this work, and that throughout it all I have received nothing but the kindest courtesies and the warmest sympathy. I have never been asked to deviate from principle or to promise an appointment. From East, from West, from North, from South there has been evident but one desire, and that the best welfare of the American Institute of Homœopathy. Our record, or rather the record of our fathers, is a proud one; but as it has seemed to me during the past five years that the Homœopathic school has been passing through a critical period, and that the shadow of uncertainty has been upon her, through a lack of firm organization, through a sometime lack of loyalty of her own members, through a tendency to seek new gods and forget the mother that nurtured us; so it seems to me now, as at night

> "When the sun's last rays are fading,
> Into twilight soft and dim."
>
> —*Barker.*

it is but the precursor of the morning that is to come, when the shades of night shall be swept away and the brilliant rays of a new light shall illumine the world; so the new light of a stronger Homœopathy, a stronger profession and a more devoted body of men is before us. We have only to do our work as best we know, to live our life in the strength of right as we see it; to be loyal to our fellow practitioners, but remember first our duty to mankind; to be as unselfish, as charitable, as the immortal Hahnemann, and to have like him, "A tear for pity and a hand open as day for melting charity" *King Henry IV.*, and every day our profession may grow

stronger, our work will grow better, and the life of the American Institute and its work shall last

"When the sun grows cold,
And the stars are old;
And the leaves of the judgment book unfold."
—*Bayard Taylor.*

SECOND DAY—MORNING SESSION.

ATLANTIC CITY, June 21, 1899.

At 9.30 o'clock the Institute reassembled in the Casino Room, President Bailey in the chair.

Dr. Peck for the Censors announced that the 122 names heretofore read as applicants for membership on yesterday having been posted for the requisite time, were now ready for election. On motion the list was elected.

Dr. Peck also read the names of further applicants which were ordered to take the usual course.

The Interstate Committee being called Dr. Hanchett gave a short oral report outlining the report to be made later, as soon as the full committee could meet.

The General Secretary read the following nominations for the elective officers of the Institute:

C. E. Walton, M.D., President; J. P. Cobb, M.D., First Vice-President; Nancy T. Williams, M.D., Second Vice-President; W. A. Smith, M.D., Recording Secretary; T. Franklin Smith, M.D., Treasurer; E. H. Porter, M.D., General Secretary; M. D. Youngman, M.D., Board of Censors.

The President appointed as Election Committee Drs. T. M. Strong, B. W. James and D. A. Foote.

The Committee on Medical Legislation being called presented the following report:

REPORT OF COMMITTEE ON MEDICAL LEGISLATION.

Mr. President:

Your committee on medical legislation has found little during the past year with which to occupy itself.

The Interstate Committee and the Hahnemann Monument Committee have had in charge matters which otherwise might have demanded the attention of this committee, in the objects of which the individual members of the committee on legislation have taken

great interest, and in furtherance of which they have done what they could.

In different States, as usual, there has been, as there is likely each year to be, some contention over various schemes to thwart or to favor the Homœopatic interest, the details of which need not be given here.

In the opinion of your committee the paramount subject for national legislation now is securing from Congress the granting of assistance in the placing of the Hahnemann Mounment at the national capital. The Monument Committee's report covers past and prospective action in this case. Past failure, under misconception and misrepresentation, should not discourage from further efforts. Success will eventually come—to secure which, however, every member of the Institute, and every member of the profession who appreciates the services of the great physician to whose memory the monument is proposed to do honor, should strive unceasingly. Every other appeal to Congress—however meritorious the purpose—should be held in abeyance until this grand object shall have been accomplished.

Assuredly the grandest thing that our school has to be proud of—outside of the clinical results of practice, showing its great superiority—is the American Institute of Homœopathy—the oldest national medical body of which our country can boast. As, then, the Institute has committed itself to the erection of the Hahnemann Monument at Washington, the idea of failure is not to be entertained. The misrepresentations of inimical persons must be exposed, and the worthiness and importance of the object should be forcibly and continuously pressed.

Perhaps the misrepresentation that has done more harm to our cause than any other is the sectarian one that we are asking a favor for partisan advantage. The unfairness and the fallacy of this should be made manifest to our Congressmen. No such silly sectarian cry was raised when the monument to the eminent Dr. Gross which graces the Smithsonian Institution grounds was proposed, and the argument of sectarianism now is simply shameful and absurd.

While it is true that those who are most earnest in the procurement of a site and assistance for this monument are among those who are familiar with the works and writings of Hahnemann, it is a new doctrine that such qualification for judging of the merits of a man constitutes him a sectarian and weakens his claim. Who would ever have had a monument if admiring friends who knew of the achievements of their heroes had not moved in the case? Hahnemann was one of the great medical reformers and heroes of the world, and many there are who know the fact. It is because of the knowledge of the beneficent effect upon humanity of his teachings and his influence that thousands in and out of the profession have contributed to the construction of the splendid monument which stands ready for erection when Congress shall do its part. Will that representative body fail in its duty by reason of the machinations of misguided or malevolent sectarians?

Of the two weakly objections—or rather pretexts for objection—which defeated our bill in Congress—both of course suggested by sectarian jealousy—one, that "it would be starting a sectarian precedent," is untrue; the other, that "Hahnemann was not of our country, and that our grounds should be reserved for Americans alone," is unworthy. Shame mantle the cheek of any American who would deny a merited tribute of honor to one of the world's greatest benefactors *because of his foreign birth!*

Are we not members of the family of nations? And are we not so partly through the aid of friends from foreign lands? God help our country if its representatives should ever become so narrow, so inconsistent and so mean as to exclude from honor those of other nations who deserve well of human kind.

[Signed] F. H. ORME,
Chairman.

Dr. McClelland then presented the report on Hahnemann's Monument as follows:

MONUMENT COMMITTEE REPORT.

I am very glad indeed to be able to appear and present a very short résumé of the work done by the committee since last we met. A great many of you are familiar with our efforts to secure legislation. We thought we had every thing secured and arranged, but from some misrepresentation, we might say, there were members of Congress in the lower House who objected to our bill, and it was taken off the calendar, so that it could not again be taken up. That has all been explained, the errors have been corrected, and we are informed that next year—this coming fall—legislation will be passed without any objections, that those who have objected to our having the proper legislation by which a site would be secured in Washington will withdraw all opposition and that our legislation will be passed in proper shape which will secure for us a site in Washington City second to none in this country, where the monument in memory of Hahnemann, founder of our school, will be a thing to be known and read of all men—and many women—the year around and for year following year; that the name of Hahnemann will be honored and revered as it never has been before. Every member of Congress in every State will become familiar with Hahnemann Monument, the extent of his work, and the effect of this great memorial will be distinctly felt the land over.

Now, that is the status of the case to-day. You want to ask us, "But what of the Monument?" We have the Monument completed. That is now beyond cavil or quibble. It has been pronounced by competent authority to be the finest art work that has been produced in this country in this century. [Applause.] It is the finest memorial that has ever been raised to a medical man in any country at any time. [Applause.]

My friends, that is what is within our grasp and it must be placed this coming year. There must be no failure about it. It is

in your hands. We propose to do all we, as a committee, can do. We ask each indivdual member of this Institute to be a committee of one to further that. We have asked for suggestions from this one and that one. Dr. Shelton recommends that we appoint a large committee which shall keep the matter before the profession, that is, a committee made up of persons from each State so that it will be kept in mind that we must finish the Monument this year, we cannot afford to let it go beyond this year. We will be the laughing stock of the world if we should allow another year to pass without completing and placing that Monument, which can be done.

How is it to be done? In the first place every Homœopathic physician must feel that it is his work and not a burdensome work. That it is his pleasure to do what lays in his power to do to finish this work. It is the work of no one man, but the homœopathic profession, but it must not stop even there. The laity will help greatly. I am only one and have to become personal in my explanation. I myself ask my patients from time to time if they would not contribute to this work. I said to them, "You are the gainers by this; he has lessened sickness and reduced the death-rate. What are we going to do to honor that man?" These people have said to me, "What are you trying to do?" I told them what we were trying to do and they said they would help us. Among the people I have happened to meet I have raised over $2000. [Applause.] I do not mean to boast of that, but it shows the people are the same the world over. It shows that your patients could do it as well as mine. We have had some great encouragement since we came to Atlantic City. I hope some are here who stepped forward, who had already given some and offered to give more and those who gave for the first time. It is admitted all over the country that money can be had this year more easily than perhaps in the next ten years to come, and what we want to do is to form a Hahnemann Monument trust here and now, and the shares I think will be taken up quickly and immediately. If there are any who will say what they will give, I will be glad to hear from them, or if there is any one who has further to say on the Monument, I will be glad to hear it.

John L. Moffat, M.D., offered a resolution that hereafter the definition of a homœopathic physician formulated by Eugene H. Porter, M.D., in a Presidential address before the Homœopathic Medical Society of the State of New York and ordered to be prominently printed in the Transactions of that Society, be printed hereafter conspicuously in each volume of Transactions issued by the American Institute of Homœopathy. The definition is as follows:

I define a homœopathic physician as one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics. All that pertains to the great field of medical learning is his by tradition, by inheritance, by right.

The resolution was referred to the Committee on Resolutions.

The President appointed the following a committee on selecting a place of meeting for 1900. W. B. Carpenter, M.D.; A. B. Norton, M.D., and Alonzo Boothby, M.D.

The special address of J. C. Wood, M.D., was then presented. (See page 107.)

The Institute then adjourned.

THIRD DAY—MORNING SESSION.

Thursday, June 22, 1899.

On assembling at the time ordered in the printed program the Censors announced the election of 30 candidates to membership and read the applications of 36 others. The latter were ordered to take the usual course.

The Bureau of Organization and Statistics being called made the following report:

NEW YORK, June 19, 1899.

Fellow Members of the American Institute of Homœopathy:

The following is my report of the Homœopathic societies and institutions in the United States.

There are 28 National societies, 6 of which have sent in reports; there are 2 sectional societies, both of which have reported; of 33 State societies I have received reports from 27; there are 94 local societies, 83 of which have sent in reports; there are 42 Medical Clubs, of which I have received reports from 37; there are 3 miscellaneous Homœopathic Associations, all of which have reported.

There are 87 General Homœopathic hospitals, of which 59 have reported; of 68 Special Homœopathic hospitals and institutions I have received reports from 48. These 107 hospitals and institutions report a capacity of 12,688 beds; they have had during the year 47,535 patients, of which 28,617 have been cured, 14,458 have been relieved, 2249 have not been relieved, and 2211 have died; the death-rate has been during the year 4.63 per cent.; if the cases of phthisis which have died, and which have been reported among the number of patients treated, could be stricken out, the death-rate would fall considerably below 3 per cent.

There are in the United States 55 Homœopathic dispensaries, from which I have received reports from 42; these report having prescribed for 223,729 patients, and have made 606,710 prescriptions; there have also been 26,960 outside visits made.

There are in the United States 21 Homœopathic colleges, having 561 professors, teachers and lecturers; 1598 matriculants, and 412 graduates; there are from these colleges 12,329 alumni.

There are 28 Homœopathic journals published in the United States.

All of which is respectfully submitted,

THOS. FRANKLIN SMITH,

Chairman Committee of Organization, Registration and Statistics.

The Committee on the President's Address reported itself ready to make its report. Dr. A. B. Norton, first vice-president took the chair, when Dr. Dewey presented the following report:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

Your Committee begs leave to report that having given careful consideration to the able and comprehensive address of our worthy president it takes pleasure in commending it as a document showing deep thought and a lively interest in the welfare of the Institute and the Homœopathic profession at large, and makes the following recommendations in relation to its salient points:

1st We approve of the appointment of a committee to consider the subject of drug proving and report at the next meeting, and suggest that President Bailey be made chairman of this committee.

2d. The recommendation in regard to the collation of comparative vital statistics is highly commendable and it is recommended that this subject be made the special work of the Committee on Registration, Organization and Statistics.

3d. The recommendation referring to the extension of aid to other American lands is one of great merit and worthy the consideration and encouragement of the Institute.

4th. The recommendation that the legislative committee of the Institute confer with the members of our legislative bodies in relation to the securement of equal rights and privileges to Homœopathists is endorsed.

5th. The recommendation that efforts be put forth to secure greater uniformity in the laws pertaining to the practice of medicine in the various States and Territories appeals to us as worthy of hearty endorsement, and we urge that the Legislative Committee be instructed to confer with the Legislative Committees of the other schools of medicine and leave no stone unturned to secure the enactment of a law by the United States Congress providing for the regulation of the standard of the colleges of the United States as recommended in the President's address.

6th. The recommendations in regard to the work of our colleges is of such special import that we advise that it be referred to the Intercollegiate Committee.

7th. The recommendation referring to the publication of the Transactions of the Institute in journal form, as is done by the American Medical Association, is worthy of the most careful consideration, and your committee urges the appointment by the president of a special committee of five to study the subject and report at the next annual meeting.

W. A. DEWEY, *Chairman.*
O. L. BLACKWOOD,
HORACE PACKARD,
C. MOHR.

It was moved to receive the report and act upon it by sections. So ordered.

Dr. Dewey read the first section. On motion duly seconded this section was adopted.

The second section was read.

Dr. T. C. Duncan: It seems to me that this work of collating comparative vital statistics should be delegated to the Interstate Committee whose special work lies in the direction of collating vital statistics from the various States. I therefore move that this section be referred to the Interstate Committee.

Dr. E. C. Price: I think that the Presidential Address Committee is right; the work called for is exceedingly important and should be given to a special committee. The Interstate Committee will be very thankful to have such special committee report its work to them. But the Interstate Committee has all it can well do as matters stand now, and it would prefer to have the recommendation to stand as written.

Dr. Duncan's motion was put to vote and lost. The original recommendation of the Presidential Committee was then put and adopted.

The third and fourth sections were then read and adopted and Dr. Dewey read the fifth section.

Dr. Delamater: The only difficulty I see in the adoption of that section is that we may come in conflict with the Legislative and Interstate Committees. The Interstate Committee has now that very matter in hand. And I believe that the Legislative Committee has its hands full of the same matter. Still if the two committees will consult with each other there may be no trouble. I therefore move the adoption.

Dr. Fisher: I move as a substitute that the section be referred to the Legislative Committee of the Institute. I hardly believe that we can give too much consideration to this subject. If we want the Legislative Committee to consult with the legislative bodies of the several States and of Congress they can be asked to do so. I do not believe it wise to ask Congress to pass national medical laws for the forty-four independent legislative bodies. The colleges of the different States are likely to have views widely at variance with each other on this as upon other subjects. I believe the Legislative Committee will be in better position to act intelligently upon this question and be more apt to be ready to report to us at a future meeting, than if we cause this report to emanate from more than one committee, or from one of two committees which are requested to consult with each other. And besides we haven't gone deep enough into the matter to

advise so radical a step at this time as the formulating and urging to its passage of a national medical law.

The substitute motion was seconded and adopted.

The sixth and seventh sections were then adopted and the entire report with the amendments adopted as a whole.

Dr. Bailey resumed the presidential chair.

The Committee on place of meeting being ready for report, Dr. Carpenter read as follows:

Your Committee appointed to consider the place of meeting for the next session of the Institute would respectfully report that they have carefully considered suggestions in regard to several points, and would *Recommend* that the session of the American Institute of Homœopathy for 1900, be held in the City of Washington, D. C. at the unveiling of the monument erected to the memory of Samuel Hahnemann. Should any unforseen circumstances arise to prevent the holding of this meeting in Washington we recommend that it be held at the Hotel Victory, Put-in-Bay.

Respectfully submitted,

W. B. CARPENTER,
A. B. NORTON,
ALONZO BOOTHBY.
Committee.

Dr. Horner moved to amend by substituting the word Cleveland for Put-in-Bay. Seconded. Question called on the amendment and lost.

Dr. Walton: I think the Institute ought to receive a little general information upon this very interesting question for much depends upon our going to the right place. I understand that Put-in-Bay is one of the hottest places this side of St. Louis. It is an isolated situation. There is only one boat a day from three different cities. It is a question whether the profession wants to isolate itself in that way. There is no local committee in Put-in-Bay. There is an invitation here from Cleveland. They want us there and I believe in going where we are wanted. If there is no great objection to Cleveland possibly we ought to select that place. Personally I have no preference. I am opposed constitutionally to going into a sweat-box.

Dr. Norton answered Dr. Walton and showed from printed matter in his hands that were a number of boats each day running to Put-in-Bay, that the hotel accomodations were ample, that the table and rooms were excellent and a promised reduction in price to be made. That it was not any warmer there than elsewhere, and it had many attractions which a city cannot offer. Besides all that the Institute had tired of cities and broken away from the fashion by

coming to Atlantic City. This was another watering place and a good one where we would all be together and have a good time.

Dr. Fisher said that the Cleveland College celebrates its semi-Centennial next year and that we ought to appreciate this sufficiently to honor that city with a visit. He mentioned that the new Chamber of Commerce had offered them the use of their building for meeting purposes. There were a half dozen hotels within a few blocks of this Chamber of Commerce ample to house and feed every member of the Institute who would come.

Dr. Cowperthwaite moved to reconsider the amendment of Dr. Horner, which was to substitute the word Cleveland for Put-in-Bay. The amendment was duly considered, and finally adopted. This left the report as presented by the committee with the exception that the word Cleveland is substituted for the word Put-in-Bay.

The report of the committee as amended was then adopted.

The Local Committee through Dr. Baily reported informally that at the present moment there had been registered as in attendance 420 members, and about 700 visitors. He also announced the purpose of taking a photograph of the membership after the adjournment for the day.

Dr. T. F. Allen: I came here on Monday to attend the meeting of the O. and O. Society which was very important to me; I couldn't afford to dispense with it. Indeed I cannot afford to dispense with the meetings of any bureau. I am in general practise and I need all the information I can get. I need to learn from every source. I have found since I have come here that the time allotted by the Institute—and I beg to say that I am not complaining—that the time allotted to the different bureaus has been so limited that no adequate report of discussions can be had. Take the bureau of materia medica; owing to the limited time some papers could not be presented. We were to have had a discussion of antitoxin in diphtheria. I had an opportunity to say a few words by the courtesy of the gentleman from Baltimore. But it was only a few words. And so with the other attempts at discussing this or the other topics. And so it has come to me that with this limited time in which to prepare and present valuable papers—this new way of holding the sections—that the American Institute has taken a step backward; and that if you continue to meet in this way—with a few members to present the papers and other few members to do the discussing and everybody else barred, you will not be able to cover the whole field; you will not be able to do justice to any subject; and you will hurt your bureau. We had a conference of materia

medica which lasted two or three days and that was enthusiastically attended. It was proposed to me that we proceed to form a similar society or conference in connection with this Institute; that we have in it a free, fair, open discussion—there is no need to be acrimonious—let us say, on the alternation of remedies, or any other kindred subject in which the practical men of the profession are deeply interested. It would take two or three days to do it well—to go into the matter thoroughly and well—and arrive at some conclusion that would be satisfactory to ourselves. We ought to do it. It is only in that way that we can make some impression upon the members in attendance. Let us have a meeting with some of the recognized great men of the profession. Let us have Dr. Dudgeon, from London, here to meet us. He had almost agreed to be present at the Materia Medica Conference when these were abandoned. But let us do something to save our distinctive branch of medicine from disappearing wholly from the meetings of this Institute. There are many live topics that could be discussed—dynamization, the high potency—I am sure I am not afraid to discuss these and other subjects before a scientific body. It is only through comparison of opinions that we learn to throw away the dross and retain the gold. We needn't quarrel with each other about our private understanding on these subjects. But we must have plenty of time to do it in thoroughly. Now the object of my remarks is just this: I want to favor the establishment of a materia medica conference or a materia medica bureau or a materia medica league or a Homœopathic league to comprise all these ideas in one, and which will give us the sanction of the Institute and yet give us abundant time and opportunity to discuss rationally all the vital subjects which crop out in the profession from time to time. It is by the establishment of such an organization that we can retain control of our membership and hope to recall those who have fallen away from us because they have felt that they have not room or opportunity to discuss the papers presented. I think in such a way as that you can establish the old time control over your membership and largely increase the usefulness and greatly enhance our interests. I want to appeal for such an extension of time to be given to the subjects coming before us. That such society shall be a creature of this Institute, officered by it, and controlled by it. That it shall meet with the Institute and that it shall be provided for just as every other bureau of the Institute is provided for. How all this will be best done I leave to the wisdom of the Institute for decision. I will offer, therefore, as a motion that we establish a bureau of materia medica and therapeutics which

will not only discuss materia medica but also all matters appertaining to the practice of medicine. And I would like to add that it shall hold its meetings at the time of the regular sessions of the Institute at such particular time as may be thought best by the chairman of the bureau and that this bureau be given sufficient time for full discussion.

On motion of Dr. Fisher, a committee of three was appointed, consisting of Drs. Allen, Bailey and Walton to report on Friday, June 23.

Dr. Schenck presented the following resolution, which was referred to the proper committee:

Resolved, That it is the opinion of the American Institute of Homœopathy that opticians are not qualified by either education or training to perform the work of the oculist which deals with the function of the eye and the health of the patient.

Resolved, That until opticians have fitted themselves by a medical degree to treat disease all physicians are reminded of the dangers to their patients in consulting tradesmen and are requested to discountenance the growing practices and assurance of the optician.

Dr. Cobb of Chicago, who had been appointed Chairman of a special committee on resolutions to take action upon the death of Dr. Reuben Ludlam, presented the following report which was adopted by a rising vote, and properly referred.

In Memoriam.

Professor Reuben Ludlam, M.D.

We are called upon to mourn the loss of a tried colleague, a prominent member of our profession, an early member of this Institute, one of its honored Ex-Presidents, Professor Reuben Ludlam, who died at Chicago, April 29, 1899, in the 69th year of his life while performing a laparotomy.

He joined this Institute in 1857; has been one of its most regular attendants, having been absent from its annual meeting but three times in forty-one years, and in 1869 served as its President.

Professor Ludlam possessed the merit of ability and greatness rarely accorded to man; for forty-eight years he has maintained a high professional standing; for over forty years he has been prominent before the profession as an editor and a writer; for forty consecutive years he has been a teacher in Hahnemann Medical College and Hospital, Chicago, of which he was one of its founders; more than 3000 students have listened to his teachings and gleaned golden grains of wisdom from his life-long study and efforts.

A strong man, a deep student, an earnest teacher, a polished writer, a ready speaker, a convincing disputant, at the time of his death the most widely known member of our faith, he is indeed a

great loss to this body, to our profession, to his colleagues, to his friends and to his family.

Truly has it been said, "No one can fill his place!" He has lived a life; he has done his work; he has earned a rest.

JOS. P. COBB,
S. P. HEDGES,
A. C. COWPERTHWAITE,
C. H. VILAS,
CHAS. GATCHELL.

The special address by D. A. Foote, M.D., of Omaha was then prested. (See page 137.)

Directly upon the conclusion of the reading of this special address the Institute adjourned.*

FOURTH DAY—MORNING SESSION.

ATLANTIC CITY, Friday, June 23, 1899.

Promptly at the hour advertised the Institute reconvened in general session.

The Committee on Medical Education was called and in the absence of the Chairman in Alaska, and no other member of the Committee being in the room, the President requested the Recording Secretary to read the report which is as follows:

June, 1899.

To the Members of the American Institute of Homœopathy, Atlantic City:

A retrospect of medical teachings, and the general advancement of our profession during the last quarter century is fraught with great pleasure, because much has been accomplished. The watchword of the present is to elevate the standard of medical schools and to give greater protection to our profession. This is echoed and re-echoed throughout the land by the medical press representing the several systems of medicine; by scholarly and progressive physicians; and by the laity.

The great question is, therefore: How shall our best interests be subserved?

Through considerable correspondence suggestions have been received, plans formulated, all whereof aim to solve this difficult question. Briefly, some recommend that the subject be left, as now, with the colleges and preceptors; others that the legislation be invoked. From all of which your committee begs to offer the following:

1. That we encourage medical teachings in the State Universities. (This would insure a higher standard in every department

* The special address by Charles Mohr, M.D., was presented at the evening session of the Institute. (See page 127.)

of medical learning. The demand of the hour being for better schools; quality rather than numbers.)

2. That colleges should be liberally endowed. (This would make it possible from uniformity of interests, to make the grade of entrance examination, general teaching, and the "finals" of the same high standard of the University.

3. That instructors should be salaried, where possible. (This, as must be apparent, would insure greater study of, and application to the duties of the chair.)

4. That the Chairman of the Committee of Medical Education should be ex-officio a member of the Intercollegiate Committee. (This would seem to be necessary, and that he be continued for a series of years, in order not to disturb the chain of his investigations and labor.)

5. That all colleges should have a uniform curriculum for entrance, intermediate and final examinations and study. And the length of time of study to be the same. Said curriculum should be established by the Educational Committee of this Institute. (Then the diploma would be accepted in every State of the union; and political preferments would be easier of attainment.)

6. That no teaching should be permitted except from those specially trained for the respective departments.

7. That Professorial appointments, except in the University School should be made by a senate or board of regents, and this appointing body to be elected by the alumni.

8. That the admission of colleges to the American Institute of Homœopathy for obvious reasons, should be passed upon by some committee other than the Intercollegiate,—say the Educational Committee,—and the latter to be composed of non-college members of this Institute.

Respectfully submitted,

H. F. BIGGAR, M.D., *Chairman.*

Chairman of Committee of Medical Education.

A motion was made and seconded that the report be accepted and referred to the Publication Committee.

Dr. Delamater: Were there not some recommendations in that report? I move as an amendment that we take up this report and dispose of it seriatim. Seconded and so ordered.

The first section was thereupon read by the Secretary.

G. C. Jones, M.D.: This does not say how this is to be done. The proposition made by the Ohio State University is this: They request that the college or colleges should become affiliated with the State University; that all students in the Freshman and Sophomore classes should be transferred to them, and then, if they choose they can go back to the original college. I am opposed to any such mongrel performance. How many of those students would come back and what are they good for as Homœopaths after those two

years in an allopathic school? In the State of Ohio or in any other State if they will give us——

The point of order was raised that the discussion was not germane to the question before the house, and was sustained by the Chair.

Dr. Fisher: The whole report is so ambiguous that I thought the best thing to do with it was to accept it and refer it to the Publication Committee, where it would be properly assigned its place. But it seems to me, since we are talking about that matter, that it would be perfectly proper to encourage University teaching. For we do so encourage it in Minnesota, in Iowa, in Michigan.

Dr. Jones. But the Ohio University hasn't put the question to us in the way that the State universities cited have had it put to them. It is all wrong. We think too much of Homœopathy to be handled in any such way. There is a way in which it can be done and done properly, and if done properly, I am in favor of it.

The question being called on the adoption of the first section of the report it was adopted.

The remaining sections of this report were acted upon as stated below, no special discussion being indulged in.

Section 2, adopted. Section 3, adopted. Section 4, laid on the table. Section 5, referred to the Intercollegiate Committee. Section 6, adopted. Section 7, laid on the table. Section 8, laid on the table.

A motion prevailed to now adopt the report as amended.

Dr. Delamater, having voted in the affirmative, moved to reconsider the vote. Motion to reconsider was voted down.

Dr. J. P. Cobb presented the Report of the Intercollegiate Committee.

Report of the Intercollegiate Committee.

The Intercollegiate Committee organized Tuesday, June 20, 1899, by electing Dr. I. T. Talbot of Boston, Chariman; Dr. J. R. Kippax, Chicago, Vice-Chairman, and Dr. Joseph P. Cobb, Chicago, Secretary.

The following colleges were represented with delegates:

1. Hahnemann Hospital College of San Francisco.
2. Denver Homœopathic Medical College and Hospital.
3. Hahnemann Medical College and Hospital of Chicago. C. H. Vilas, M.D., Joseph Pettee Cobb, M.D.
4. Chicago Homœopathic Medical College. J. R. Kippax, M.D., N. B. Delamater, M.D.
5. Hering Medical College. J. J. Thompson, M.D.
6. National Medical College. T. C. Duncan, M.D.
7. Homœopathic Medical Dept. of the State Univ. of Iowa. T. L. Hazard, M.D.

8. Southwestern Homœopathic College. Sarah J. Millsop, M.D., M. Dills, M.D.

9. Kansas City Homœopathic Medical College. W. D. Foster, M.D., A. E. Neumeister, M.D.

10. College of Homœopathic Medicine and Surgery of Kansas City Univ. J. M. Patterson, M.D.

11. Southern Homœopathic Medical College and Hospital. Charles Leslie Rumsey, M.D.

12. Boston University School of Medicine. I. Tisdale Talbot, M.D., H. P. Bellows, M.D.

13. Homœopathic Medical College of University of Michigan. C. B. Kinyon, M.D., W. A. Dewey, M.D.

14. College of Homœopathic Medicine and Surgery of Univ. of Minn. George F. Roberts, M.D., Warren S. Briggs, M.D.

15. Homœopathic Medical College of Missouri.

16. N. Y. Homœopathic Medical College and Hospital. E. H. Porter, M.D., H. M. Dearborn, M.D.

17. N. Y. Medical College and Hospital for Women. Belle Brown, M.D., H. M. Dearborn, M.D.

18. Cleveland Homœopathic Medical College. G. J. Jones, M.D.

19. Pulte Medical College. C. E. Walton, M.D., W. A. Geohegan, M.D.

20. Hahnemann Medical College of Philadelphia. Pemberton Dudley, M.D., Charles Mohr, M.D.

The Chicago Homœopathic Medical College and Hahnemann Medical College of Chicago announced that they had lengthened their course to four years of seven month each, and recommended that after the present year the Intercollegiate Committee request that all medical colleges shall have a course of four years of not less than seven months each instead of six months as heretofore. This recommendation wos unanimously adopted.

A Committee of three, consisting of Drs. Dudley, Dewey, and Kippax, were appointed to consider and report on the subject of "Uniform Minimum Requirements for Medical Colleges."

A Committee of three, consisting of Drs. Vilas, Walton, and Dearborn, was appointed to prepare a Code of Intercollegiate Ethics, and instructed to report at the next meeting of the Institute. They were also instructed to act as a Board of Censors during the coming year to whom shall be referred any irregularities in colleges, rules, and practises.

It was regularly moved, seconded, and carried that the records of the Intercollegiate Committee be kept in duplicate; one copy to be placed in the hands of the General Secretary and the other retained by the Secretary of the Committee. The Secretary was instructed to make an abstract of the records of the preceding years and place these also in the keeping of the General Secretary; and to send a copy to the Registrar of each of the Homœopathic Colleges in this country. It was resolved that hereafter all applications from colleges for membership in thic Committee shall lay over for one year and that a committee shall be appointed to investigate the standing of the Institution and report to this Committee.

The application for membership in this Intercollegiate Committee of the Dunham Medical College of Chicago was presented by Dr. Walton; and after having been referred to a special committee consisting of Drs. Walton, Dearborn, and Briggs, was admitted to membership in the Intercollegiate Committee.

On motion of Dr. Dudley it was resolved that the Intercollegiate Committee recommend to the Institute that an evening be set apart under the direction of the Executive Committee of the Institute, to be designated Alumni Night, that evening to be devoted to a single entertainment, in which the Alumni of all colleges shall be expected to participate.

A Committee was also appointed, consisting of Drs. Delamater and Roberts, to confer with the other committees having under consideration Medical Licensure.

(Signed) JOSEPH P. COBB.

Dr. Fisher: I move the adoption of the report as read with the exception of the alumni clause. I don't think that that committee or any other can separate the alumni into certain nights. I therefore move to amend the clause referred to so more than one evening may be devoted to entertainment in which the alumni of the several colleges may participate.

Seconded and so ordered. Report then adopted as amended.

The amendments proposed at the last annual session were now called for.

To amend Article VII., Section 2, By-Laws, first line to read as follows: "The Committees on Legislation, Education, and Drug Provings shall consist of five members each." Carried.

To amend Section 2, Article VII., as follows: Add after the word "chairman," as it occurs in the last line but one, "The Interstate Committee shall consist of two members from each State, to be appointed by the respective State Societies; the Chairman shall be elected by the Committee."

Its adoption is moved and seconded.

Dr. Delamater: By courtesy I know that the Interstate Committee has made a recommendation in regard to this matter, one that bears directly upon this feature. It is that the Interstate Committee shall consist of three members from each State and that one shall be elected for a term of three years, and one elected each year in order to make it a permanent committtee and not a new set of members each year.

Dr. Cowperthwaite: Who elects them?

Answer: The State Society.

Dr. Delamater: Then in order to put it in some concrete form I move to amend the amendment to make it three instead of two members from each State. Seconded.

Query: If we have the Institute committees appointed by the State societies, how long will it be before the committees will be outside bodies with no control given to the Institute? It is eminently proper that this body at least shall have the final action.

Dr. Duncan: Put this matter off until to-morrow so that the Interstate Committee can adopt it and bring it in due form. I know it is the sense of the Committee to recommend the adoption of the amendment that was presented by Dr. Delamater.

Dr. Fisher made the point of order that it is not what the Interstate Committee wants done, but what the Institute wants to do. This amendment has been on our books for a whole year. We cannot change it through the Interstate Committee's recommendation. Therefore, I move the adoption of the By-Laws as amended. And that the chairmanship of the Interstate Committee shall remain with the Institute as heretofore. Seconded.

Dr. McClelland: How is the Institute to appoint a chairman before the committee is appointed by each State? How does the Institute know what members each State will appoint?

Dr. Delamater: I move an amendment to the amendment. That this committee consist of three instead of two members to be appointed by each State Society to serve for three years, one to me elected each year.

Dr. Porter: It seems to me that this amendment of Dr. Delamater's is entirely unnecessary. At present the delegates to the Interstate Committee are elected for two and for four years respectively. Most of the States have held their meetings and selected their delegates. To put in this new complication might prove disastrous. We might as well let it alone.

Dr. W. A. Smith: Who appoints the Chairman of the Intercollegiate Committee?

The Secretary: He is appointed by the Committee.

Dr. Smith: Are they not in relationship with the Institute? And if they are in relationship with this Institute why not give this Interstate Committee the same powers and privileges that the Intercollegiate Committee now enjoys?

Dr. Andrews: I would like to ask a ruling of the chair pending the adoption of this amendment, as to what would be the status in the Interstate Committee if these members are elected by our various State societies after this amendment is adopted?

The Chair: I don't think the By-Laws provide for the appointment of any chairman from the two- and four-year class. I would decide that this election would be void. The former order was made by the Interstate Committee while this would be made by the Institute itself. But in the case cited they could easily perhaps be elected over again.

The question being now called, the Chair called for the votes upon the amendment to the amendment. Declared lost. Then upon the amendment—namely, that the Institute shall continue to have the appointment of the chairman—and this was declared lost. The question coming now upon the original motion as printed was adopted—33 ayes to 14 nays.

The next amendment was taken up as published in the program as follows:

To amend Article VII., by adding after Section 5 a new section (6) as follows:

"The President shall have the power to fill any vacancies that may occur in any Committee during or between the sessions of the Institute.

"Vacancies in elective offices may be filled by nomination and election in open meetings during any session of the Institute, the members elect to hold such office until the arrival of the regular occupant.

"The Executive Committee may, at any time, when deemed necessary, fill any vacancy occurring in an elective office between the sessions of the Institute, such appointee to hold office until the opening of the next regular session. Absence from the sessions of the Institute shall constitute a vacancy."

The amendment was passed unanimously.

The Committee on Resolutions through Dr. Vilas reported the resolution presented by Dr. Schenck in relation to the sending of patients to opticians who have had no training, etc. The committee recommended the adoption of the resolution and especially so since the same resolution has already been adopted by the old school societies in many States and by the American Medical Association.

The resolution was adopted.

Dr. McClelland: I desire to say, after very serious consultation with the other members of the Hahnemann Monument Committee and with other members of the Institute, that in order to aid the committee in its final effort to raise the balance of the monument fund I have come prepared to make this motion: That a special committee be appointed known as the Committee of Finance of the

Hanhnemann Monument Fund. I move you, sir, that this committee consist of five members with power, and that this committee be appointed at this time.

Duly seconded, put to vote and ordered.

Dr. McClelland: I move that that committee consist of Drs. George G. Shelton of New York, B. F. Bailey of Nebraska, J. R. Kippax of Illinois, Alonzo Boothby of Massachusetts, and O. S. Runnels of Indiana.

Seconded by Dr. Walton and so ordered.

Dr. H. M. Smith after referring to the long and honorable services of Dr. E. M. Kellogg as Treasurer of this Institute moved that, since Dr. Kellogg preferred to be no longer in active work, he be elected Honorary Treasurer without duties.

Dr. Fisher raised the point of order that it is not possible for the Institute to create a new office or to elect a member to such office without going through the regular form of amendment to our By-Laws and Constitution.

The President sustained the point of order.

Dr. Fisher moved a special committee of three of the older members of the American Institute, as to time of service in the Institute, be appointed to select a suitable testimonial properly inscribed and present the same to Dr. Kellogg for his long and faithful service as Treasurer of this body.

It is so ordered.

The President thereupon appointed Drs. H. M. Smith, J. H. McClelland and C. E. Fisher.

Dr. Fisher called attention to the fact that he was hardly yet to be classed among the older members of the Institute, and suggested the propriety of selecting in his stead the oldest member practically in the Institute, namely, Dr. H. Chase.

The President accepted the suggestion and Dr. Chase was appointed.

Dr. Moffat offered an amendment to Article V., Section 1, in regard to membership qualifications.

At line 7, after the words "may be elected a member," insert the words, "provided the name of said candidate shall have been presented by the Board of Censors before the last day of the regular session."

Dr. Moffat gave notice of an amendment to the By-Laws, Article V., Section 1, by inserting after the word *diploma* the words, "And under what license he is practising, with its date."

On request the committee having charge of the correct render-

ing of the Latin motto of our practise, *similia similibus curantur,* were granted a special order for 10 o'clock Saturday morning.

The Board of Censors made a further report.

Dr. D. A. Foote presented the following resolution which was ordered to the proper committee:

Resolved, That the chair appoint a committee of three (3), of which the President shall be a member, to submit to the Institute at its next annual meeting, such plan as their judgment may suggest for reorganizing the present method of section work to the end that existing friction among sections, with which there is such general dissatisfaction, may be hereafter avoided.

The Committee on Election reported as follows:

Number of votes cast, 211.

For *President:* C. E. Walton, M.D., received 190.

For *First Vice-President:* J. P. Cobb, M.D., received 190.

For *Second Vice-President:* Nancy T. Williams, M.D., received 187.

For *General Secretary:* E. H. Porter, M.D., received 185.

For *Recording Secretary:* Wilson A. Smith, M.D., received 182.

For *Treasurer:* T. Franklin Smith, M.D., received 193.

For *Registrar:* H. C. Aldrich, M.D., received 191.

For *Censor for five years:* M. D. Youngman, M.D., received 183.

There were 16 blank ballots.

Dr. Walton being called for, addressed the Institute briefly and in his usual happy way.

T. F. Allen, M.D.: Your committee recommends the organization of a Pharmacological Society of the American Institute of Homœopathy. We have selected this word in our title because it expresses the full work of this Institute, and covers all departments of the healing art not included in the purely surgical departments. It means a knowledge of drugs; it embraces pharmaceutics—it embraces the whole science and art of drug provings, experiments upon the healthy and all scientific experiments connected therewith.

The motion was seconded and carried.

Dr. Mohr presented the following resolutions which were ordered to the Committee on Resolutions:

WHEREAS, The discussion of the subject of the Pharmacopœia of the American Institute of Homœopathy has made evident the fact that the Institute did a wise thing in authorizing its publication, and that all Homœopathic pharmacists should be governed by one standard work, so that practitioners of Homœopathy may at all times and everywhere procure medicinal agents uniformly and reliably prepared.

WHEREAS, As some inaccuracies have been detected in the first edition of the authorized Pharmacopœia, therefore, be it

Resolved, That the Standing Committee on Pharmacopœia, which was discharged in June, 1897, be revived, and that the Pharmacopœia shall be critically examined by them, that all typographical or other errors may be corrected, and that they are hereby authorized to publish a second edition at the earliest possible day.

The Institute then listened to the special address of W. S. Briggs, M.D. (See page 134.)

MEMORIAL SERVICE.

Friday Evening, June 23.

The annual service in memory of the deceased members of the Institute was held Friday evening at 8 o'clock in the large assembly hall. The Committee of Arrangements, assisted by the Memorial Committee, had obtained the photographs of all deceased members and had slides made for exhibiting the same by a stereopticon. The Institute was called to order by Dr. S. P. Hedges of Chicago, Chairman of the Memorial Committee, who made a few introductory remarks and introduced Rev. J. A. Kunkleman, D.D., of St. Andrews' Lutheran Church, who led the congregation in a short and appropriate prayer. Following the prayer the congregation was favored by a finely rendered bass solo, "Calvary," by Mr. Peter McKenna of St. Nicola's R. C. Church. Mrs. Alfred W. Baily was accompanist. After the solo the lights were turned out and the Necrologist, Dr. Henry M. Smith of New York City, announced the names of members who had died during the year, giving age, date of death and residence. As the names were called, each face was flashed upon the screen to be silently observed by the members. The following are the names in their order:

REPORT OF NECROLOGIST HENRY M. SMITH, M.D., NEW YORK.

The Necrological Report for this year includes the names of twenty-five members, of whom thirteen had attained seniority. They are:

ADAMS, CLIFFORD BURDOTT, M.D., of New Haven, Conn., was elected a member in 1886; died August 19, 1898, in the forty-ninth year of his age.

ALLEN, GEORGE, M.D., of Gowanda, N. Y., was elected a member in 1897; died November 14, 1897, in the forty-fifth year of his age.

AYERS, JAMES NELSON, M.D., of Kalamazoo, Mich., was elected in 1896; died May 15, 1899.

BAGLEY, HERMAN BEARDSLEY, M.D., of Seattle, Wash., was elected a member in 1870, becoming a senior in 1895; died March 8, 1899.

COON, HENRY CLARKE, M.D., of Alfred Centre, N. Y., was elected a member in 1874; died May 9, 1898, in the seventy-first year of his age.

CUTLER, WILLIAM CLARK, M.D., of Chelsea, Mass., was elected a member in 1869, becoming a senior in 1894; died May 1, 1899, at the age of sixty-two years.

DAILY, JOHN CALHOUN, M.D., of Fort Smith, Ark., was elected a member in 1891; died July 31, 1898, at the age of thirty-eight years.

FLANDERS, MARTHA J., M.D., of Lynn, Mass., was elected a member in 1879; died November 3, 1898.

HALE, EDWIN MOSES, M.D., of Chicago, was elected a member in 1865, becoming a senior in 1890; died January 15, 1899, at the age of seventy years.

HOUGHTON, HENRY ARVIN, M.D., of Boston, was elected a member in 1859, becoming a senior in 1884; died January 15, 1899, in the seventy-third year of his age.

HUNTER, HORATIO MILTON, M.D., of Lowell, Mass., was elected a member in 1884; died January 11, 1899, in the sixty-ninth year of his age.

IVINS, HORACE FREMONT, M.D., of Philadelphia, was elected a member in 1887; died January 1, 1899, in the thirty-third year of his age.

JONES, JOSEPH E., M.D., of West Chester, Pa., was elected a member in 1858, becoming a senior in 1883; died May 7, 1899, in the sixty-seventh year of his age.

LUDLAM, REUBEN, M.D., of Chicago, Ill., was elected a member in 1857, becoming a senior in 1882; died April 29, 1899, in the sixty-eighth year of his age.

MITCHELL, JOSEPH SIDNEY, M.D., of Chicago, Ill., was elected a member in 1866, becoming a senior in 1891; died November 4, 1898, in the fifty-ninth year of his age.

RAND, NEHEMIAH WHEELER, M.D., of Monson, Mass., was elected a member in 1881; died November 5, 1898, at the age of forty-five years.

RANKIN, JOHN S., M.D., of Pittsburgh, Pa., was elected a

member in 1865, becoming a senior in 1890; died April 21, 1899, at the age of sixty-eight years.

RHEES, MORGAN JOHN, M.D., of Wheeling, W. Va., was elected a member in 1846, becoming a member of the Association of Seniors at its organization; died March 26, 1899, in the seventy-fifth year of his age.

RUSH, ROBERT BRYSON, M.D., of Salem, O., was elected a member in 1865, becoming a senior in 1890; died March 28, 1899, in the seventy-fourth year of his age.

SANDERS, ORREN STRONG, M.D., of Boston, was elected a member in 1859, becoming a senior in 1884; died November 20, 1898, in the seventy-eighth year of his age.

SMITH, JOSEPH HEBER, M.D., of Boston, was elected a member in 1869, becoming a senior in 1894; died October 23, 1898, in the fifty-sixth year of his age.

STETTLER, CORNELIA SOMARINDYCKS, M.D., of Chicago, Ill., was elected a member in 1891; died August 7, 1898, at the age of thirty-nine years.

TALCOTT, WILLIAM STUART, M.D., of New York, was elected a member in 1897; died July 15, 1898, at the age of sixty-four years.

WAREHEIM, EDWARD ARMACOST, M. D., of Glen Rock, Pa., was elected a member in 1892; died July 11, 1898, in the fifty-fourth year of his age.

WHITE, THEODORE COLUMBUS, M.D., of Rochester, N. Y., was elected a member in 1860, becoming a senior in 1885; died November 18, 1898, at the age of sixty-four years.

Nine deaths of ex-members have been reported since our last meeting:

CANFIELD, PAULINE EMERSON, M.D., 1889 to 1895, died December, 1897.

DICKINSON, WILMOT HORTON, M.D., 1884 to 1891, died October 26, 1898.

EDMONDS, WILLIAM ALEXANDER, M.D., 1874 to 1890, died September 22, 1898.

HART, FRANK O., M.D., 1888 to 1892, died October 10, 1898.

HOYNE, TEMPLE STOUGHTON, M.D., 1867 to 1879, died February 4, 1899.

MCNEIL, C. HOLMES, M.D., 1872 to ——, died December 18, 1898.

OWENS, JAMES B., M.D., 1872 to 1878, died November 18, 1898.

TERRY, JOSÉ ANTONIO, M.D., 1872 to ——, died August 18, 1898.

TINDALL, DANIEL MOTT, M.D., 1860 to 1868, died February 28, 1899.

Respectfully submitted,

HENRY M. SMITH,

Necrologist.

June, 1899.

At the close of this solemn report, while the room was still darkened, the solo, "Lead, Kindly Light," was beautifully sung by Miss Isabella Rothholtz, soprano, of the choir of the Episcopal Church of the Ascension. The lights were then turned on, and the Chairman presented the following speakers: Dr. A. C. Cowperthwait of Chicago; Dr. Horace Packard of Boston, and Dr. John Wesley Le Seur, Batavia, N. Y.

INTRODUCTORY REMARKS BY S. P HEDGES, M.D.

When we are gathered together in memory of those of our brothers who have dropped from our side during the year that is past, we are reminded that we do not mourn alone. Whatever strength or comfort lies in human sympathy must reach to bless and solace all those who weep.

When the heavy hand of war was laid upon our country, it meant inevitably death to many brave souls, disease and death to many sons, and brothers, husbands and fathers. It meant desolate homes, many longing, lonely hearts, many bitter, helpless tears. But it meant, too, hundreds of hands outstretched to all others who sorrow, hearts overflowing with sympathy for other hearts that break; eyes that weep for the burden of all who suffer, sympathy wide as the world born of the pain of anxiety and the anguish of loss.

"Let us be thankful that sorrow lives in it as an indestructible force, passing from pain into sympathy,—the one poor word that includes all our best insight and our best love."

It is, indeed, a peculiar and inestimable loss when a physician is called by Death to leave his place among men, for not only do his family and his near friends feel deeply the pang, but to all those who have come to look upon him as a potent power, a healer for all their wounds, as strength and life itself, the blow comes as an almost overwhelming sorrow. And we, who try to "put in words the grief we feel," pause, realizing that we are on holy ground.

Our pens fall, our tones falter, and yet, Oh! my brothers, another year and the words in memoriam may be said for you and for me, and what is the message which those who have preceded us by so

brief a space have left for us—what is the message we would leave for those who come after?

Is it not a word of strength and of courage, does it not inspire us to more altruistic living, more unselfish deeds, more uplifted thought? Will it not live in us and through us as an incentive to purer striving to higher and worthier resolves? Why, otherwise, should they or we have lived or worked at all?

A physician's life is full of self-denials, of high renunciations for the sake of others which to him do not seem great or noble, for, as one of our poets has reminded us, beauty and romance always hang on every sail within the horizon save that of the boat wherein we sit, and the daily performance of homely duties seems commonplace enough to him who is doing them.

But the glory is not in the deed, but in the faithfulness of the service; not in the work done, but in the high and steadfast spirit of the man who does it.

If we make life what it should be, then need we not fear death. Indeed, a paragraph or two from a page of George Macdonald's has been running in my mind lately. Let me read it to you:

"We are perhaps too much in the habit of thinking of death as the culmination of disease. But I think rather of death as the first pulse of the new strength. Who knows but disease may be the coming, keener life breaking into this and beginning to destroy like fire the inferior garments of the present? And then disease would be but the sign of the salvation of fire, of the agony of the greater life to lift us to itself, out of that wherein we are falling and sinning."

However we may miss the cordial handshake, and the genial word, the ready understanding and the quick impulse to help of those who were last year numbered with us, but whom we may no longer greet, let us bear ourselves as they would have us, holding their memories sacredly but not sorrowfully, speaking their names with dear remembrance, not with sadness, feeling sure that

> "Death is full of leisure and of light
> Of compensations and of huge amends."

Remarks by A. C. Cowperthwaite, M.D.

Mr. Chairman, Ladies and Gentlemen of the American Institute of Homœopathy:

It is fitting that we for a time put aside the business and the pleasures of the Institute for the purpose of paying a last tribute

of love and respect to those of our honored dead who have been taken from us during the past year. Each year this solemn duty devolves upon us. Each year the list of those

"Against whose names the asterisk of death is set"

grows longer, and, notwithstanding the growth of our beloved Institute, the time is not far distant when those who have finished their work with us and have passed to their final reward will constitute the majority—a silent majority crowned with unfading laurels, not with us in the flesh, their forms invisible, their voices unheard, yet the spirit of their lives pervading our every heart, we feel the influence of their presence and bow before them with reverence and love.

Heavy has been the hand laid upon us during the past few months, and we are called upon to mourn the loss of those not only personally dear to us, but who have through many long years been a source of honor and strength not only to the Institute, but also to the cause of Homœopathy throughout the world. The stalwart LUDLAM, the gentle MITCHELL, the indefatigable HALE, the genial HOYNE, the loyal RUSH, the gifted and faithful DICKINSON—these are among those whom the West has lost and of whom I am supposed particularly to speak to-night. What a brilliant galaxy to be extinguished within one short year! Yet the light of their lives still shines through those to whom during long years of faithful teaching they imparted their example and precepts. Though dead, they yet speak—they live, and because they live we shall live also

REUBEN LUDLAM—the stalwart of Homœopathy, whose name is known and honored in every hamlet of the civilized world where Homœopathy has found a place, and which appears on more diplomas than that of any other man living or dead. A man who devoted all the energies of a long and useful life to one great object, and never for a moment relinquished his purpose, he has left to Homœopathy a monument more enduring than marble or bronze—a great institution that will each year, as time goes on, scatter the influence of his life and teaching and perpetuate his memory. How ideal, how pathetic, how fitting the manner of his final passing—the crowning moment of a great life, when, beneath the roof of the institution to which he had devoted his whole being, surrounded by his chosen assistants and associates, with scalpel in hand, his last work of mercy barely finished, the summons came—the scalpel falls from the relaxing grasp, the arm is stilled, the great heart ceases to beat, and amid the scenes of his daily professional life and

in the very performance of a professional duty, the spirit takes its flight—Reuben Ludlam is dead.

JOSEPH SYDNEY MITCHELL, the loving, tender-hearted Mitchell, the incomparable teacher, the profound thinker, the eminent practitioner. A man deeply loved by those who best knew him. A man who, like Ludlam, devoted the great energies of his somewhat briefer life to the building of an institution of learning, has also left behind him an enduring monument, not only in the institution of which he was the head, but also in the hearts and affections of the profession and the public. But few men have enjoyed the confidence and love of his friends and co-laborers to the same extent. His unselfish, self-sacrificing devotion to his profession was unparalleled, and was ever inspired by humanitarian motives. The deserving poor were never turned away, but always enlisted his sympathies and received his services by day or by night. His loyal heart was ever true to the cause of Homœopathy and to the American Institute, which, next to the college, was the chief object of his devotion. And he, too, is gone from us. He will be missed in our discussions, and his wise counsels will no longer influence our deliberations. The following tribute to Dr. Mitchell from a member of the Institute who was very near to him, fitly expresses the feelings of others:

"Oh, man of upright life, whose every act
Was pure! With thee a thousand hearts
Lie buried. Our faith, our love,
Were all with thee, and in thy brave career
Thy comrades saw the promise bright
Of Hope's fruition. Thy colleagues mourn thy loss,
And in their hearts thy memory dear
Is deep enshrined. And yet, to us,
Thou art not gone. Thy noble life
A thousand lives inspires to
Nobler deeds. The youth thou'st taught,
However poor, to strive for
Honors high. Thou'st taught us all
The way to live, and taught us how to die."

EDWIN M. HALE, the indefatigable author. How few libraries that do not contain one or more volumes of his writings. To him more than to any one else is due the knowledge we possess of our newer remedies, many of which have already become indispensable therapeutic agents. His name is widely known and highly honored, and to him we owe a debt that will cause his memory to be cherished wherever the Homœopathic materia medica is known.

ROBERT B. RUSH—dear old father Rush. Ever loyal and true to the Institute. Ever present at its meetings. Ever watchful of its interests. Ever careful in guarding its doors from the entrance

of the unworthy. His services have been of inestimable value, and with the influences of his pure and noble life, these characteristics have endeared his memory to every member. We mourn his loss and will ever hold his name in loving remembrance.

Of other Western members of whom the speaker has less knowledge are: Cornelia S. Stetler, Herman B. Bagley, James N. Ayers, and James B. Owen. These, too, have all finished their earthly work and have gone to their reward. To-night we render this, our last tribute, and say a last farewell. They have finished their work, they have kept the faith, and henceforth there is laid up for them a crown of eternal glory. In our hearts their memories will remain forever enshrined, and on the tablets of the American Institute of Homœopathy their names, revered and honored, will be handed down to future generations.

Farewell, dear old friends and comrades, and with this last farewell we would fain repeat the beautiful words of the poet—those words which, more than any others, made William Cullen Bryant famous—teaching us that, like those whose loss we mourn to-night, we, too, may so live that when our summons comes to join the silent majority, which soon it must, we can meet the end with unfaltering trust and, wrapping our mantle 'round us,

"Lie down to pleasant dreams."

Remarks by Horace Packard, M.D.

NEHEMIAH WHEELER RAND, M.D., Monson, Mass., died Nov. 5, 1898, aged 45 years.

Dr. Rand was born in Francetown, N. H., Sept. 14, 1853, and was a lineal descendant of Robert Rand, an early settler of Charlestown, Mass. He was educated in the schools of his native town, Boston University School of Medicine, and New York Homœopathic Medical College, supplemented by study in Europe. He remained a student throughout his life, not only of medicine, but of science and philosophy. He began practise as an associate of Dr. J. K. Warren, in Palmer, Mass., but moved to Monson in 1879.

Dr. N. Wheeler Rand was respected by all who knew him. No physician was ever more deeply beloved by his patients. He was not only physician, but also counselor and friend.

He was a man of unusual attainments. He was possessed of skill in his profession, literary ability of a high order, an active interest in educational matters, and had received, a short time prior to his death, an appointment as lecturer in Boston University School

of Medicine. Thrice he served as Vice-President of the Massachusetts Homœopathic Medical Society, and once as its orator. He was a poet, but so modest withal that the world knew him not. These are his words on the death of a brother physician. None fitter can now be said of him:

"Live on, O loyal heart!
Thy friends will never let thee die
While love retaineth memory;
Virtue is heir to earth and sky,
And lo! she pledgeth immortality,
Brave soul, live on."

In religion he knew no sect, but "Looked through nature up to nature's God."

He gave his life to his patients. For two days after he was stricken with appendicitis he kept about, ministering to the sick, when he himself should have been in recumbency and under medical care. In his devotion to his family, his patients, his public duties, he thought not of himself. Modesty, devotion, constancy, sobriety, moral rectitude, veneration, love! He was one of Nature's noblemen. "None knew him but to love him, none named him but to praise."

WILLIAM JOHN WINN, M.D., Cambridge, Mass., died June 21, 1899, aged 44.

Dr. Winn was born in Bangor, Me., lived during his early life in Ottawa, Canada, and later in Somerville, Boston and Cambridge, Mass. He was a descendant of the Smithfield martyr, John Rogers.

His early education was obtained in private and public schools of Hartford and Waterbury, Conn., where he fitted for the Sheffield Scientific School of Yale University. Obstacles arose which delayed the execution of this plan, and in the interval his attention was drawn towards medicine. In 1881 he graduated from the Boston University School of Medicine. During his senior year he held the position of house surgeon in the Massachusetts Homœopathic Hospital, later received appointment on the Medical Board as assistant surgeon, and a few years before his death was raised to full surgeoncy with regular term of service.

He was a member of the Massachusetts Homœopathic Medical Society, ex-President of the Boston Homœopathic Medical Society, member of the Massachusetts Surgical and Gynæcological Society, the American Institute of Homœopathy, and the International Hahnemannian Association.

Dr. Winn's personality was one which drew to him warm and

steadfast friends. He was honored and respected by his colleagues and beloved by his patients. As a surgeon he had already attained an enviable reputation, and wholly through the merit and excellence of his work. He was retiring and modest and spoke or wrote of his achievements but rarely. In his hospital service his devotion to his work was unexcelled.

His illness was particularly discouraging and prolonged, continuing over a period of two years, yet through it all he was never heard to complain or bewail his misfortune. Though he knew too well the fatal nature of his malady he was buoyed by the hope that he might be spared to know the fruition of his earthly ambition—devotion to his wife and children and success in his profession. Cut off from this supreme pleasure, he still bowed in cheerful submission to God's will.

With Dr. Winn's demise there passed from us one whose memory will long be cherished, whose example will be a beacon light to those who follow.

J. HEBER SMITH, M.D., Boston, Mass., died Oct. 23, 1898, aged 55 years.

Dr. Smith was elected to the American Institute of Homœopathy in 1869, and during the thirty years of his membership was an active worker in this organization, and a strong upholder and supporter of Homœopathy throughout the United States.

He was member and ex-President of the Massachusetst Homœopathic Medical Society, and of the Boston Homœopathic Medical Society, and honorary member of many local societies throughout the country.

His strength of character as physician and man made him widely known and respected throughout New England.

He was born in Bucksport, Me., in 1842. Early in the history of Boston University School of Medicine he was appointed professor of materia medica, and held the chair up to the time of his death.

He was a man of strong mentality and of great personal magnetism; possessed of broad education outside of his profession; was a fluent and witty speaker, and endeared himself to all of his associates and students through his scholarly attainments and good fellowship.

He was a victim from the early years of his life of articular rheumatism, which was a serious obstacle to physical activity. Yet he was never heard to complain; cheerfully and faithfully performed his professional duties, and fulfilled the various functions which de-

volved upon him as citizen, teacher, counselor, friend. All who had personal relations with him recall that promptness in his appointments was a prominent quality of his character.

During the last two years of his life he bravely labored under the embarrassments and discouragements of illness and increasing physical weakness, but through it all was cheerful, hopeful, and sanguine of recovery.

He leaves a bereaved wife, a married daughter, and a son who has this year received a magna cum laude degree from Boston University School of Medicine.

The following resolutions were adopted by the faculty and students of the Boston University School of Medicine:

J. Heber Smith, physician, medical teacher, friend, having been called by the dispensation of the Eternal Wisdom from his earthly labors, his surviving colleagues of the faculty of the Boston University School of Medicine mourn his death, honor his memory, and hereby testify to their deep appreciation of his quarter of a century's unremitting, steadfast, and faithful labors in behalf of the school. In class-room, in business meeting, in social gathering, his clear and efficient teaching, his words of counsel, and his genial presence will be sadly missed. His strong individuality, his unfailing cheerfulness, constant good humor, and pungent wit, united with his scholarly attainments, made him a convincing personality. His patient and uncomplaining submission to lifelong infirmity, his sympathetic and keen appreciation of the sufferings of others, his energy and forgetfulness of self in ministering to the necessities of others will linger as an example to be imitated by all whose good fortune it was to know him.

To his family and relatives we extend our sincerest sympathy for a bereavement which is an affliction shared by all who were numbered with his friends.

Faculty.

J. P. SUTHERLAND,
H. C. CLAPP,
J. W. HAYWARD,
Committee.

It is with a due sense of the inadequacy of words that we would express the profound sorrow which we feel at the calamity which we, as students in this school, have sustained in the death of Prof. J. Heber Smith.

With deep gratitude we shall ever remember the cheerful fortitude, courageous faithfulness, the scientific ardor, which, despite

his physical disabilities, he unfailingly manifested in the discharge of his duties to us.

We ever found in him a wise counselor, a sympathetic teacher, and a faithful friend, and we shall ever find in those qualities which endeared him to us a constant, helpful, and sustaining inspiration.

To those of his family who have been left behind we extend our keenest sympathy; and while sorrow comes closer to them than to us, the feeling of gratitude which we sustain for his many kindnesses and brilliant teachings we believe cannot be exceeded.

Students,

A. E. P. ROCKWELL, 1899,
W. H. WATTERS, 1900,
A. R. MUNN, 1901,
W. L. KERSHAW, 1902,
Committee.

ORREN S. SANDERS, M.D., Boston, Mass., died Nov. 20, 1898, aged 78 years.

Dr. Orren S. Sanders died at his home in Boston, Mass., Nov. 20, 1898, of senility. He had been in constant practice up to within eight weeks of his demise.

Dr. Sanders was born in Epsom, N. H., September 24, 1820. He studied medicine in the Castleton Medical College, Vermont, graduating in 1843. He also attended Dartmouth College, from which he received an honorary degree in 1886.

He established himself first in Effingham, N. H. A year and a half later, in the autumn of 1849, he came to Boston, where he remained until his death.

He was associated for a year and a half with Dr. Samuel Gregg, from whom he took his first lessons in Homœopathy, and then went into private practice at 11 Bowdoin Street. Here he lived for twenty-one years, when he moved into his late residence on Columbus Avenue.

Dr. Sanders was one of the three seniors belonging to the Homœopathic medical profession in Boston, and the community, as well as his school, recognized him as one of its most successful members. He was a member of the Massachusetts Homœopathic Medical Society (of which he had been President), the American Institute of Homœopathy, the Hahnemann Club, and the Boston Physiological Society, and had contributed largely to the medical journals. For two years he was a member of the Boston School Committee.

He was a large contributor to many charities. He conceived the

plan for and subscribed $5,000 toward founding the Little Wanderers' Home.

He leaves a widow.

HORATIO M. HUNTER, M.D., Lowell, Mass., died January 11, 1899, aged 60 years.

Horatio M. Hunter was born September 29, 1830, in Lyndon, Vt., the son of James and Lucy Hunter. He first read medicine at Lyndon in the office of C. B. Darling, M.D., who was the pioneer Homœopath of Northern Vermont. After receiving an academic education Dr. Hunter went to Dartmouth Medical College, and afterward to the Hahnemann Medical College of Philadelphia, from which he was graduated in the class of 1857. After leaving college he first practised medicine at Concord, Vt., from which place he later went to St. Johnsbury, Vt. He left the latter place in 1870 and went to Lowell, where he has since been in practise.

Few, if any, physicians now there were then in practise in that city. In all these years Dr. Hunter was never known to shirk a duty, be it ever so difficult or trying. He had the respect of all who knew him; enemies he had none, for his sunny, peaceful nature would not permit him to make them. He had always been a hard worker, fond of his books and well acquainted with their contents; always keeping well abreast of the times, he gave to his patients the best there was in him.

Dr. Hunter was married in 1860 to Miss Susan M. Chase of Concord, Vt. She, with one daughter, Mrs. G. Forrest Martin, and three brothers and one sister residing in Vermont, survive him.

Dr. Hunter was a member of the Lowell Hahnemann Club, and was its first President. He was also an active member of the staff of the Lowell General Hospital, and had served upon its Advisory Board ever since the hospital has been opened. He was a senior in the Massachusetts Homœopathic Medical Society, and one of the founders of the Massachusetts Surgical and Gynecological Society. He had also been a member of the American Institute of Homœopathy for many years.

HENRY A. HOUGHTON, M.D., Boston, Mass., died January 15, 1899, aged 73 years.

Dr. Henry Arvin Houghton, after a brief illness, died at his home, 136 Marlboro Street, Boston, Mass., January 15, 1899, and so ended a life of rare activity, fidelity and usefulness.

Dr. Houghton was born in Linden, Vt., December 25, 1826. Af-

ter an academic training he entered the Hahnemann Medical College in Philadelphia, and graduated in 1852. The same year he married Sarah D. Page of St. Johnsbury, Vt., and commenced his professional work in his native town. He soon removed to Keeseville, N. Y., where he found a larger field, which he faithfully cultivated till 1876, when he came to Charlestown. Here his ability and the value of his services were soon recognized and he entered upon a large and successful practice, which he continued up to within a few days of his death. In 1890 his wife, who had made his home beautiful, died. In 1894 he was married to Mrs. Harriet B. Willard of Keeseville, N. Y. About this time he moved to the Marlboro Street home, where he died. Three sons survive him—Harry, of Boston; Edmund K., of Lexington, Mass., and Silas A. Houghton, M.D., of Brookline, Mass.

His memory will be long and tenderly cherished in many homes and in many hearts. He was, in very truth, a "beloved physician." To a deeply affectionate and sympathetic nature he joined in large degree close and accurate observation and sound judgment. His lovable spirit and sterling character will make him long remembered by all who knew him. No one ever met him but recognized one of God's real noblemen. He loved and honored his profession and was devoted to his work. A veritable MacLure of Drumtochty, no ride was too long, no weather too severe, no home too humble, if so be he could serve the sick and relieve suffering. When in late years it was suggested that he leave "charity work" to younger and less busy men, he replied, "My service is at the disposal of any who need it and ask for it."

Modern schools may furnish fuller courses and ampler facilities than those of his time afforded. They will be fortunate indeed if they give to the community men as true and noble.

He has finished his work and entered upon his rest and reward. "Come, ye blessed of my Father; I was sick and ye visited me."

WILLIAM C. CUTLER, M.D., Chelsea, Mass., died May 1, 1899, aged 62 years.

Dr. William Clark Cutler was one of the oldest practising physicians in Chelsea, Mass., one of the suburbs of Boston. He died May 1, 1899.

His fame extended throughout the United States, and even to other countries as the head of the New England Vaccine Company, which he organized in 1871. When the Massachusetts State Board of Registration in Medicine was established in 1891 Dr. Cutler was

appointed to the board as the representative of the Homœopathic profession, and remained a member until his death.

He was born at Holliston, Mass, May 17, 1837. He was a son of Phineon Newton Cutler, who was a large mill owner in Holliston and Ashland. His preliminary education was received in the Ashland High School and at Mt. Hollis Seminary. He was graduated at the old Laight Street Medical College in New York in 1859, and began practice in Upton, Mass., in 1860. Six years later he settled in Chelsea.

Dr. Cutler was a member of the American Institute of Homœopathy, of the Massachusetts and Boston Homœopathic Medical Societies, and vice-president of the medical board of the Rufus S. Frost General Hospital of Chelsea.

In 1883 he visited the extreme southern coast of Florida, a section then comparatively little known. So favorably was he impressed with the locality that he made purchases of land and founded the town of Cutler on the shores of Biscayne Bay. He had there a large plantation of tropical fruits and a mammoth steam starch factory. He leaves a widow and one son, Dr. Charles S. Cutler, who was associated with him in his practise.

Remarks by John Wesley Le Seur, M.D.

"Our Fathers, Where are they? And the Prophets, Do they live forever?" The long list of names of those who have, in the interests of our glorious cause, fought a good fight, finished their course, kept the faith, and now fallen to sleep have passed onward to their eternal rest and reward, gives a silent, forceful answer to us who linger yet a little here in the field of turmoil, trial, and toil. No, alas! the wisest, the brightest, and the best must leave the work, the friends, the cause they love and go out yonder to that country toward which so many eager and enquiring eyes have long been turned.

The names just mentioned by the eloquent Cowperthwaite shine out bright and clear in the firmament of noble, untiring, zealous, heroic, faithful, fruitful effort.

How industriously they have labored. How cheerfully they have sometimes suffered. How loyally they have upheld the standard of true Homœopathic faith. Let those tell who knew them best; let those in palaces and those in humblest homes who have so often felt their kindly sympathy and been helped by their cheering ministrations speak, as they only can speak, of the lives now ended. Let us listen and hear them as, with voices made tender by sorrow and

mellowed by the memory of numerous kindnesses, they speak of those loved ones we gather to-night to remember, to recall, to revere, and to speak of with tenderest words. We lovingly speak of and recall those who often have, but shall never again, grace our annual gatherings with their presence and cheer our councils by their genial personality and strengthen our hearts by their words of encouragement and of wisdom. They are gone. We shall not meet them here again, but we shall not forget to love and cherish every one whose name we have spoken and whom we recall so sadly and tenderly here to-night. I said, they are gone. And yet to-night they are with us again, and the special characteristics which belonged to each one come up before us as we sit here at the close of this quiet summer day and review hastily their relations to us as brethren and locate them in their proper places in our great national family.

The lesson of the hour is the shortness of our life of labor. How brief this journey is, how swiftly we are passing, how soon will all our labors be ended on earth, how soon will our places be filled by our brethren, and what will they say of our life and our worth when we have passed onward and others in memorial service gathered speak of our lives as finished. We meet so seldom, we clasp each others hands so rarely that I fear we fail to appreciate and love each other as we might. If our meetings and greetings must necessarily be few, should we not try to eliminate all selfishness as much as possible and make our meetings ones of pleasure and friendly intercourse; should we not try to get a little nearer each to the other, and become a little more interested in the social and fraternal side of our national family life.

To-night by the aid of skilled hands and suitable appliances we have seen thrown up in bold relief before us faces of those members of our family whom we have loved but not lost, but in our hearts are pictures far more clear and permanent than these we have seen to-night. How they come back again as we sit here and recall them and think over their kindly words and helpful deeds. They have been our leaders, our teachers, our prophets, our seers and our fellow workers in the rank and file—some of them the babies of the great household, some of them the white-haired leaders whose counsel has been our guide and whose strong manhood has been the means of accomplishing grand results in the formative and growing period of the history of our great national body. It is a beautiful and wonderful possibility that we see their faces upon this screen to-night. How earnestly you scan the outlines of each face as it

appears for the moment and then disappears. But how would your heart-beats quicken and your attention be a thousandfold intensified if on this same screen could be thrown the faces that are here to-night to attend what for them shall be the last meeting of the American Institute of Homœopathy. Who is here at this meeting that we shall never meet on earth again? By divine kindness we live ignorant of what the future has in store for each of us, but let us with kindly sympathy treat every one as a brother, and in the brief period of our national meetings let all thoughts of bitterness be banished. Let us, inspired by the noble example of those heroes who have preceded us, try to be brave, loyal, honest, earnest, sympathetic, laborers, so that whether our meetings be many or few we may constantly have the consciousness of duty well done and the feeling that we have not striven to supplant others, but have by every honorable method endeavored to encourage and cheer and help each other in a work which is great with responsibilities and magnificent in opportunities. So we may hope to have a life fruitful in general results.

At the close of the very strong and eloquent address of Dr. Le Seur, the Chairman requested the audience to rise and join in singing "Nearer, My God to Thee." Thus standing and all joining heartily in this familiar song, the memorial service of the session of 1899 was closed.

FIFTH DAY—MORNING SESSION.

Saturday, June 24, 1899.

The Board of Censors presented their final report.

The Committee on Medical Legislation was called, but only reported progress.

The Interstate Committee thereupon took the floor and presented its final report as follows:

Report of the Interstate Committee.

The work of the Interstate Committee during the past year, although quite unsatisfactory to its secretary and chairman, has we hope, accomplished some good. The work outlined this year has been to continue the able work of last year of Doctors Norton and Clokey, the chairman and secretary of this committee for 1898, and to add to it what general information that could be obtained by means of circulars and questions of great interest to our national society and our school of medicine. We have had correspondence with every State in the Union, as well as Canada and Alaska.

Many of the questions sent out in these circulars would seemingly interfere with the work of other committees. However, it has been our intention to collect what statistics and information we could regarding the welfare of our school of medicine and act in cordial cooperation with other committees, which naturally would have to ask some of the same questions we have in our circular letters.

It is surprising to the secretary and chairman of this bureau to find how little representation our medical men have been able to obtain in recognition by the government. However, the able work begun last year by the committee in urging upon the members of our school a more aggressive work in the matter of Army and Navy appointments has borne abundant fruit. During the past year nearly a dozen of our Homœopathic physicians, most of whom are members of this society, have been appointed as surgeons in our Army and Navy, after a rigid examination by the government authorities. After a wide correspondence we are compelled to believe that an unjust discrimination has often been made against members of our school; we may congratulate ourselves now that the ice is thoroughly broken, and as the years go by there will be less and less prejudice against practitioners of our faith. We trust that the appropriate committees will urge upon all our colleges to give especial attention to fitting our young men for examinations to government positions. Constant agitation in this line is necessary and important. Herewith we append a tabulated list of questions sent out by this committee to every State in the Union, which is more or less incomplete.

The tendency during the last year has been to pass more just and liberal laws regulating the practice of medicine. This undoubtedly is partially due to the recommendations of last year's committee. Licenses have not been made interchangeable between States requiring examinations but we hope the time will soon come when this may be accomplished and trust this committee will continue the effort to bring about the consummation of this recommendation.

Furthermore we believe the tendency is to more liberal recognition of Homœopathy in public institutions. An encouraging number of States have recognized Homœopathy in this respect during the last years. We find in answer to our questions a large number of cities and counties are supporting hospitals under the management of our school by public tax.

We would offer a recommendation that the various members of the committee cooperate with their State and county societies to secure a just distribution of the public taxes in the opening and maintenance of Homœopathic hospitals and asylums; and that each State society have a committee of this matter of public institutions.

By questions sent out in our circular letters we find that in almost every State there are members of the American Institute of Homœopathy who are not members of their State societies, and we would recommend that the Institute require applicants for membership to be members of good standing of their various State societies. This might in some instances work a hardship, but we

believe that it would stimulate our physicians to identify themselves with our local societies and raise the standard of membership in the Institute.

We also find by our correspondence that comparatively few railroads and corporations are employing Homœopathic physicians and surgeons. It is recommended by this committee that the various State societies take up this matter, and use all honorable means to forward the interests of our school in this direction.

Finally we would recommend that the Interstate Committee heartily cooperate with the Hahnemann Monument Committee in securing subscriptions, and especially urge on our Congressmen the importance of passing a bill favorable to the erection of this noble work of art perpetuating the memory of this great master who worked in the interests of scientific research and humanity.

The President in his annual address having offered some valuable suggestions as to the needs of improvement in Medical Legislation and reciprocity of licenses, we, your Interstate Committee, recommend the following:

1st. That the Interstate Committee consist of two members from each State elected by the State Society for a term of one for two and one for four years, and as the terms expire, a new one to be elected for a term of two years, to fill the vacancy.

2d. That the delegates from each State furnish a report from their State to the Chairman of the Interstate Committee, at least thirty days before the meeting of the American Institue of Homœopathy, of the progress of Homœopathy, its organizations, institutions, legislations, appointments and other matters of interest to the school.

3d. That the several State representatives organize, so far as possible, County Societies in their respective States, and endeavor in every way to advance the interests of Homœopathy.

4th. That at each convention of the American Institute of Homœopathy a public meeting be held at which reports be made of the progress of Homœopathy in the various sections by the chairman and members of this committee, and that a definite time be assigned them on the regular program so that this meeting may be before the entire Institute.

5th. We further recommend that the Legislative Committee of this Institute be requested to draft a general bill to be passed by the legislatures of the several States with a view to obtain general uniformity in the laws governing the practise of medicine as preparatory to the introduction in Congress of a general law to secure the rights of physicians to practise in all States after being authorized to practise in one, which will ultimately lead to Interstate and International reciprocity.

W. H. HANCHETT, Omaha, *Chairman.*

F. F. TEAL, Omaha, *Secretary.*

On motion the report was accepted, it being further ordered that it be adopted by sections, which was done as follows:

Section 1, adopted as read. Section 2, adopted as read. Section 3, adopted as read.

Sec. 4. After the reading of this section a spirited discussion ensued, in which Dr. Dudley said that we must not increase the labors of the Institute because we already have so little time in which to do the scientific part of the work. As a rule these committees make perfunctory reports, and upon matters in which the Institute has no special interest. For instance, if our hospital had been making a number of changes directly in the interest of the patients and of Homœopathic treatment we make a long report of that because we see in it a wonderful improvement along our lines, but yet the Institute cares nothing for it, except in a general way, and it cannot afford to give its precious time to hearing this and similar reports read. The way this section reads we are to give this committee a public meeting. I don't see how it can be done, unless we put a limit to the reports of five minutes each and the same to be always in writing.

Dr. Porter agreed with Dr. Dudley in so far as the taking of time is concerned. We have now more work than can be attended to in the time at our command. Already he has heard of dissatisfaction with the new arrangement of the hours and the sectional work. He would suggest that this section be referred to the Executive Committee and let that committee do what it could with the time at its command. He moved as a substitute that this be done. Substitute seconded by Dr. Hooker.

Dr. B. W. James said we were crowded for time. These sections which really and practically constitute the American Institute have no time as matters stand now in which to do any part of their work well. They are justly complaining. We know that there is a tendency to form independent societies held to the Institute with very slender ties. We must not give more time to these general committees.

At this point the Special Order for 10 o'clock was called, and Dr. McClelland presented the following report:

Report of the Committee on Correct Rendering of the Homœopathic Law of Cure.

The committee begs to report that the question submitted to it has received its most careful consideration. Correspondence has been had with the foreign members of the committee, and a most pertinent letter bearing upon the subject has been received from our distinguished colleague, Dr. Dudgeon of London. A paper promised by Dr. Viller of Dresden has not reached the chairman. A paper will be submitted by Dr. Pemberton Dudley of Philadelphia

upon the probable meaning Hahnemann wished to convey as set forth in the "Organon."

A statement will be made bearing upon the subject by Dr. I. T. Talbot of Boston, and a paper will be presented by the chairman. Following the reading of these papers your committee will submit some resolutions for the adoption of the Institute. It is hoped these resolutions will be favorably received, as they have a most important bearing upon the question involved, in fact, they constitute an authoritative deliverance upon the question of the correct rendering of the Homœopathic law of cure or rule of practise. It is of no small importance that Hahnemann's famous dictum should be correctly rendered, that our literature so far as this is concerned may be uniform and correct. It will be remembered that it is soon to be written in imperishable granite at our national capital, and it is important that it should be handed down to future time.

It is not improbable that the International Congress, which meets in Paris next year, will follow the example of the Institute and take similar action. In this way a uniformity of expression will be secured the world over.

Very respectfully yours,
J. H. McCLELLAND.

The Law and the Organon.

By Pemberton Dudley, M.D.

Probably few readers of Hahnemann's "Organon" have ever noticed the fact that in the body of the fifth and final edition the complete phrase "Similia Similibus Curantur" does not once occur. Neither does the phrase "Similia Similibus Curentur." In the Introduction the formula is found in but one place. (See Wesselhoeft's translation, page 42. Dudgeon's translation, page 38.) The first two words, "Similia Similibus," however, form a phrase of not infrequent occurrence. The use of these shorter phrases does not enable us to solve the problem under consideration, although the manner and circumstances of their employment afford a certain amount of aid in the performance of our task. It is interesting to reflect that Hahnemann thus appears to have been far less interested in establishing a therapeutic dogma than in pointing out therapeutic facts. Certainly his more recent followers employ the dogmatic formula scores of times where he used it once.

Let us answer, if we can, the question: What was Hahnemann's thought upon the subject under our consideration, so far as he has indicated that thought in the pages of the "Organon?" Not that we can by such means demonstrate the exact phaseology by which his mode of practice was distinguished and designated, but in order to

throw a sidelight, as it were, upon the main question, and perhaps aid, somewhat, in its solution.

As a beginning in this interesting study we observe that the paragraph of the Introduction in which the sentence "Similia Similibus Curantur"—or "Curenter"—occurs, is quite a lengthy one, containing above two hundred words; and that it does not attempt to demonstrate the existence or operation of any natural law of any kind. Not only this paragraph, but the preceding and succeeding pages are occupied with a description and criticism of *methods,* and of *rules* employed in treatment by allopathic physicians as compared with the methods and rules which Hahnemann himself deemed wise and essential. Hahnemann's endeavor to demonstrate natural law, as underlying successful therapeutics, is not made in the Introduction, but in its natural and proper place—the body of the work. Further, it may be observed that in the paragraph of which we are speaking a distinct comparison or contrast is drawn between therapeutics guided by *Contraria Contrariis* and by *Similia Similibus,* and although the former is alluded to as an "axiom" (Dudgeon) or as a "motto" (Wesselhoeft) and the latter as "the only therapeutic law conformable to nature" (Dudgeon) or "the only natural law of cure" (Wesselhoeft), nevertheless, the whole context shows that the author had in his mind the predominating thought of methods or rules or guides in treatment, rather than physiological laws underlying methods and determining cures. He has not yet reached the point in his literary task where he undertakes to demonstrate the existence of therapeutic law. In the last one or two pages of the Introduction he cites a half-dozen authorities to corroborate his Homœopathic method, but his demonstration of the operation of a natural therapeutic law is not fairly entered upon until the 22d section is reached in the main portion of the volume.

That Hahnemann was firmly fixed in the belief that real "cures" of disease by the dynamic properties of drugs are always determined by the operation of natural law is abundantly shown by very many expressions found in the text of the "Organon," as well as in his other writings. Let us quote a few of them from the "Organon" alone:

In Section 26 he declares that the power of the similar drug to cure "depends on the Homœopathic law of nature."

In Section 28 he says: "This natural law of cure manifests itself in every pure experiment and every true observation. The fact is consequently established."

In Section 48 we find the assertion that the cure of an affection or malady by a morbific agent "similar in symptoms and somewhat stronger" takes place "according to eternal, irrevocable laws of nature."

In Section 50, speaking of the Homœopathic cure of certain diseases by the action of similar diseases, he says: "We can point to some striking Homœopathic cures effected by this lucky occurrence, also many incontrovertible proofs of the great, the sole therapeutic law of nature that obtains in them."

In Section 51 appears the statement that "This therapeutic law is rendered obvious to all intelligent minds by these instances, and they are amply sufficient for this end."

In Section 53 he tells us once again that "This mode of cure is founded on an eternal, infallible law of nature."

In Section 136 we find the same thought expressed in yet another form, namely: that the similar drug accomplishes its cures "according to an eternal and immutable law of nature."

Thus we might go on, multiplying evidences that Hahnemann entertained the most profound conviction that there is in operation an unfailing law through which the similar drug is enabled to exert its curative power over disease. Yet in but one of the quoted expressions does he attempt to *formulate a specific declaration* of the law whose existence he thus constantly recognizes; that one we will examine presently.

Hahnemann, throughout his writings, made frequent use of phrases which his translators have agreed in interpreting to mean "Therapeutic law," "Natural law of cure," etc. We must remember that these phrases are, in a sense, idiomatic, and that we do not always use them with an inadequate conception of their exact meaning and relations.

The original use of the word "law" undoubtedly has reference to the mandate of a divine or human will. It is defined by jurists as "a rule of action laid down by a superior authority possessed of power to enforce obedience." This conception of law suggests, at once, uniformity of conduct as its inevitable resultant. So, whenever we observe uniformity of action and conduct on the part of men in their relations to each other, we at once infer the existence of a law governing said conduct—an authoritative will responded to by an obedient will. This is undoubtedly our first human conception of law. Now, with this conception, when men began to observe uniformities in the phenomena of unintelligent, or even inanimate nature, they had no better way of expressing their idea of them than

by saying that they occurred in accordance with law; *i. e.*, law of nature. Indeed, we find that their conception of these natural uniformities went farther than this, namely, that they occurred under the operation of an energy which could not be resisted—not only *in conformity with* law, but *enforced by law.* The only complete and philosophical conception of natural law, as expounded by our best authorities, includes the idea not only of uniformity of phenomena, but of uniformity determined by a compelling force.

Now, putting aside this part of our topic for a time, let us ask the significance of the words "Therapeutic" and "Cure"! The lexicographers define the former word as "pertaining to the treatment and care of the sick," and the latter as "to heal; to restore to health," etc. It is significant that the dictionaries give us not the slightest warrant for using either of these words with reference to anything except acts of intelligent thought. Therapeutics is an art, pure and simple. A "cure," as Hahnemann understood and employed the term, is never natural but always artificial, except when accomplished by the fortuitous introduction of a curative drug, or a curative (similar) disease from without. On this point the teaching of the "Organon" is as clear and emphatic as it could be made. We quote from the Introduction, page 28, Dudgeon's translation, as follows:

"The true healing art is that reflective work, the attribute of the higher powers of the intellect, of unfettered judgment and of reason, selecting and determining on principle." Wesselhoeft translates this passage as follows: "The true healing art is that intellectual office incumbent on the higher human mind, and free powers of thought, discriminating and deciding according to causes." And Hahnemann says all this in *italics.* Moreover, he denies in equally emphatic terms, that there can be such a thing as a *natural cure.* In the paragraph from which we have quoted he declares that the natural powers "innate in the human body are designed to direct its functions and operations *while it is in health,*" that these powers are "irrational, unintelligent, automatic"; and "can act only according to the physical condition of the organism"; and the proposition that a disordered automatic vital force can automatically correct its own disorder he evidently considers almost grotesque in its absurdity.

This study of the "Organon" makes it very plain that while Hahnemann believed that the art of therapeutics may be, and should be, *guided by artificial rule* (how else could it be an art?) it cannot be *governed by natural law.* "The law of cure" does not govern the

act of prescribing; it governs the process of healing. It operates not in the mind of the physician, but in the body of the patient. The laws which determine the applicability and govern the operation of drugs in the relief of disease are natural. Those which guide the physician in his prescriptions are artificial and of his own making. Moreover, these latter are not laws at all, because there is no authority or energy to enforce them in case those who make them desire to violate them. They are therapeutic rules, and rules only.

According to the Dudgeon translation of that part of the Introduction in which the formula occurs (page 38) Hahnemann has employed a very significant phrase. Here he calls the Homœopathic method "the only therapeutic law conformable to nature." Evidently, then, he gives us to understand that "the therapeutic law" and "nature" are not one and the same thing, but that one is "conformable" to the other. Yet he calls it a therapeutic "law," but evidently meaning an artificial rule only.

The curative law of nature, as Hahnemann has stated it in the "Organon," Section 26, reads as follows:

"*A weaker dynamic affection is permanently extinguished in the living organism by a stronger one, if the latter (whilst differing in kind) is very similar to the former in its manifestations.*"

So far as we are at liberty to judge of the thought expressed in the "Organon," and in the absence of any formal statement of the subject in words, it would appear that while Hahnemann asserts, most emphatically, the existence of a natural law whose operation determines the curative action of the similar drug, yet he understands that law to consist essentially in the impossibility for two similar diseases to exist in the same living organism at the same time. It is thus seen to be a law that governs not only the action of the curative drug, but the manifestations of curable diseases also; and it has its root deep down in the innate nature of the living organism. This governing *fact* of nature relates to operations occurring in the diseased human body, but the therapeutic maxims, rules, principles or whatever we may choose to call them, are not "natural laws," because they are of mere human enactment, and because they can be set aside at any time by those who formulate them. Any therapeutic principle has, and must have, not the inopposable power of natural law, but only the guiding, regulating influence of a rule of action or conduct; and this, no matter in what form we may choose to express it.

Curentur or Curantur?

By J. H. McClelland, M.D.,

The inquiry we are about to make, and the conclusions we shall try to reach are not without difficulty. This difficulty is enhanced by the fact that Hahnemann, himself, so rarely makes use of the formula in his writings. Then again, it is difficult to arrive at just the right point of view. Dr. Dudley, in his paper, has successfully endeavored to throw some light upon this phase of the subject by a searching inquiry into Hahnemann's own declarations in the "Organon." We must also take into account what is sought to be conveyed by this now famous Latin phrase; is it an abstract statement of fact, or is it a rule of practice? Does it formulate a law of nature, a law of cure, or does it teach a method of healing? If we can arrive at a definite conclusion with regard to these important questions we shall have gone a long way toward reaching a solution of the difficulty. I shall assume that Hahnemann, whose mind was intent on furnishing a scientific basis for the practise of the healing art, was abundantly competent to express it in absolutely correct form. We, of course, concede that this formula was not original with Hahnemann, but came down from Paracelsus through his pronounced disciple, Johan Rhumel. There is no evidence to show, however, that these worthies had any idea of its universal applicability. Neither Paracelsus nor any of his predecessors had the least idea of what was involved in the momentus declaration, so full of meaning to Hahnemann.

He was thoroughly familiar with the history of medicine, as has been abundantly shown in his writings. Hippocrates may have said that "The colic producing hellebore will cure colic," and Rhumel may have used the form Similia Similibus Curentur, yet it remained for a mightier than either to realize the full force and meaning of the dictum. Hahnemann recognized the underlying truth, and then applied the now illustrious phrase to express it. Certain it is that up to this time Hahnemann, and his predecessors as well, used the subjective form, and, as Dudgeon says, always wrote the formula Similia Similibus Curentur. ("The Practice of Homœopathy, as Taught by Hahnemann," William Boericke, Page 8.) It is known and admitted by every one that Hahnemann's knowledge of the languages, and especially of the classics, was something extraordinary, that in so important a matter he would take pains to express himself in terms absolutely correct. We quote from the fourth

Leipsic edition (1829) of the "Organon," the following translated words in the introduction: "By observation, reflection and experience I found that, on the contrary, the true right and best way of healing to be found is in the formula Similia Similibus Curentur." This terminology is uniform with the great master, and was in keeping with all similar forms used by scientific men. If our information is correct, it was the *British Journal of Homœopathy* that made the change to the indicative form, which it did without authority, and, as the story goes, much to the indignation of Hahnemann himself. It is said he exclaimed: "Do they think I do not know what I wish to say?" or words to this effect.

However that may be, the example of the British journal was soon universally followed, and this unfortunate lead brought confusion from this time forward. For example, in Currie's Practice of Homœopathy, London, 1838, on page 26, and again on page 33, the author uses Curantur, yet, on page 85, he tells of being strongly impressed with the law Similia Similibus Curentur. Hempel, in his "Practice of Homœopathy," 1873, seems clearly adrift, and expresses his incertitude on page 140, when he says "Similia Similibus Curantur or Similia Similibus Curentur, as some will have it." In this "some" he could have included the immortal Hahnemann himself. Joslyn refers, in his "Practice of Homœopathy," page 137, to Curantur as a law of nature, and to Curentur as a law of medicine. This is still what some believe to be the truth in the matter. It seems strange that error should so early have crept into the writings of our school, in the face of the earlier scholarship, and of the historic accuracy found in the words of the master himself, for, in the earlier translation of the "Organon" bv Samuel Stratten (first American, from the British, translation of the fourth German edition, by John Romig, Allentown and Philadelphia, 1836), we find he quotes from Hahnemann, using the subjunctive from S. S. Curentur. We are glad to know that later scholarship returns to Hahnemann's terminology, as is shown in many publication of recent date, especially in the publication of the Homœopathic League, London, 1895. Let us for a moment inquire into the grammatical construction of the phrase in order that we may the better understand the master's intent in the use of it. Curantur, as we know, is the present indicative passive, and Curentur the present subjunctive passive of the verb Curo. Now, the correct idea of the verb is not properly or classically expressed by the word Cure. The word best expressing the idea of cure is Sanantur, and Hahnemann, with his full knowledge of the classics, very well understood this. The more direct meaning of the

root Curo, is to treat, to take care of. He wished to indicate a method of treating disease, a rule of practice. Hence, he used the subjunctive form of the verb and enunciated the formula now famous for all time, *viz.*, Similia Similibus Curentur. He intimated that in the healing of the sick this is a correct rule of practise. He did not mean to say "Likes cures likes," a bald statement of a fact. The subjunctive terminology, therefore, which he himself employed must be correct, and should be adopted by all who follow his method.

I take pleasure in closing this imperfect presentation of the case by quoting from a letter received from our distinguished English colleague, Dr. R. E. Dudgeon, of London, under date of April 17, 1898. In answer to some inquiries made by myself, Dr. Dudgeon yrites: "I have no knowledge of the reason for the alteration of Hahnemann's S. S. Curentur, into Curantur. The Rev. T. Everest, a great and intimate friend of Hahnemann's, used to say that Hahnemann was very much annoyed that his adherents would give his formula as Curantur, and imply that it meant "Likes cures likes," when he meant it to be a therapeutic rule "Let likes be treated by likes."

This, too, is evident from the only instance of his employment of the formula in each of the five editions of the "Organon," and in his letter to the French Minister of Instruction, which you will find in the 38th volume of the *British Journal of Homœopathy.*

Of course, S. S Curantur may be used in the sense of its being a statement that in the Homœopathic system "likes are treated by likes," but it is more in accordance with the usual custom in similar matter to use the imperative mood "Let likes be treated by likes." The whole trouble consists in the most unclassical translation of the Latin verb Curæ, which really means "to take care of" (from its root noun curo, care), or "to treat." Had Hahnemann wished to express the underlying law of nature by his formula, he being a first-class Latin scholar, would have used the phrase S. S. Sanantur. In any permanent record of the formula, I think it would be best and most becoming to adopt the master's own words. To alter them would show a want of respect to the founder of Homœopathy, as though we should say: "Old Hahnemann was an ignoramus to use Curentur, but we know much better than he did, and so we alter the word Curantur, to show our superior wisdom."

In the interests of historic accuracy and correct scholarship, let us return to Hahnemann's original declaration SIMILIA SIMILIBUS CURENTUR.

On proper motion being made and seconded the Institute unan-

imously agreed to the resolution of Dr. McClelland as follows:

Resolved, That the American Institute of Homœopathy reaffirms the Rule of Practice upon which Homœopathy is based, in substance and form as delivered by Hahnemann himself, namely, *Similia Similibus Curentur,* and that this form be employed in all the official papers of the Institute.

Resolved, That a general adoption of this rendering is earnestly recommended.

The special order having been disposed of, the regular order was resumed, which is the consideration of the fourth section of the Report of the Interstate Committee.

Dr. Rockwell moved to lay Dr. Porter's substitute on the table, which was changed into laying the whole fourth section on the table and this motion prevailed.

Section 5. Adopted.

The Interstate Committee's report was adopted as a whole and as amended.

The Committee on Resolutions through its chairman, Dr. Vilas, returned with their approval the following resolutions:

Offered by John L. Moffat, referred to the Committee on Resolutions.

Resolved, That Dr. Eugene H. Porter's definition of the Homœopathic physician be published conspicuously each year in our Transactions, as follows:

"I define a Homœopathic physician as one who adds to his knowledge of medicine a special knowledge of Homœopathic therapeutics. All that pertains to medicine is his by inheritance, by tradition, by right.

Dr. Foote's resolution in regard to arranging for a different plan of sectional work.

Also the following:

The Committee on Resolutions would respectfully report back to the Institute the resolution respecting the Pharmacopœia of the American Institute with the suggestion that the members of the committee to revise and correct the same be the following:

H. M. Smith, New York; C. Wesselhoeft, Boston; A. C. Cowperthwaite, Chicago; J. W. Clapp, Boston; F. A. Boericke, Philadelphia; W. A. Dewey, Ann Arbor; Chas. Mohr, Philadelphia; T. F. Allen, New York; J. L. Moffat, Brooklyn, and that this resolution be adopted by the Institute.

Also the following:

Resolved, That the American Institute of Homœopathy hereby

expresses its appreciation of the extent and character of the work which has been done during the past year in the distribution of Institute literature; in the successful canvassing for new members; in the renewed enthusiasm in behalf of the monument fund, and in the other efforts which have made this a marked meeting of the Institute.

All of these resolutions being properly presented to the Institute were voted upon and adopted unanimously.

The Committee on Medical Legislation made its final report as follows:

FINAL REPORT OF THE LEGISLATIVE COMMITTEE.

WHEREAS, the present administration of the Medical Department of the United States Army has shown its inefficiency to meet the hygienic, sanitary, and medical necessities that are incident to war, and that in spite of this fact it has seen fit to ignore the personal service and hospital accommodations under the control of the School of Homœopathy.

AND WHEREAS, the resolutions passed by Congress requiring that no distinction be made because of the place of graduation or the school affiliation of applicants for appointment to the medical corps of the army have been ignored.

Be It Resolved, That the Committee on Legislation of the American Institute of Homœopathy be directed and is hereby authorized to take any steps necessary to secure necessary equality of recognition for graduates of the School of Homœopathy in any laws that may be enacted to regulate the practise of medicine in the territory recently acquired by the United States.

Be It Further Resolved, That all appointments to the medical corps of the army, navy, or marine hospital service shall be made after competitive examination, that all candidates shall appear by number, and that the professional credentials of such candidates shall not be given until their standing as the result of such examination is determined; provided, that no candidates shall be admitted to either branch of the service unless he presents a diploma from a regularly chartered medical college, and his license to practise in the State which he claims as his residence.

Be It Resolved, That as a Society we recommend that the Government establish in the City of Washington a department for investigating the statistics of the cause, course, and treatment of diseases peculiar to any geographic division of the territory of the United States, and that the correspondence and literature of this bureau shall be opened for the study of the accredited graduates of legally chartered medical colleges.

Be It Further Resolved, That we are unalterably opposed to the creation of an executive department of the Government having charge of the health of the army, navy, and marine hospital service unless the head of such bureau be appointed after the method of the ap-

pointment of cabinet officers for other departments, and that appointments of promotion in the proposed be made only upon competitive examination without regard to school affiliation.

This report was accepted and ordered adopted by sections which was done.

The report was then adopted as a whole.

Thereupon Dr. Custis asked to be permitted to resign from the committee, as he was already upon a committee that embodied much of the work of this committee. His request was granted.

Dr. Comstock presented the following resolution which took the usual course:

Resolved, That the Registrar shall be empowered to engage a typewriter and one assistant to assist him in his duties. Upon the arrival of members or visitors they are requested to at once report their names, residence and the hotel or place where they are stopping during the session of the Institute. It shall be the duty of the Registrar to give each member and visitor a special number, and the name of each member shall be arranged alphabetically.

The special address by T. E. Roberts, M.D., was then presented. (See page 118.)

Adjourned until 2 P. M.

FIFTH DAY—AFTERNOON SESSION.

Saturday, June 24th, 1899, 2 P. M.

Upon reassembling Dr. D. A. Foote presented the following amendment to Article VIII., Section 3.

To amend Article VIII., Section 3 of the By-Laws to read as follows: The "Transactions" of the Institute shall be published in the form of a journal by an editor selected by the Institute, under the direction of the Committee on Publication, . . . and copies shall be delivered to those entitled to them without individual expense.

Dr. B. W. James presented the following amendments:

Resolved, That in Article III. of the Constitution, in the third line, the words *and an Assistant Treasurer* be stricken out.

Also, to change Article VI., Section 5 by adding, and no chairman shall serve for two successive years.

Resolved, That in Article II., Section 2 of the By-Laws the words *and Assistant Treasurer* be stricken out from the second and third lines. Also that Section 8 in Article III. be stricken out and Section 9 be made Section 8.

B. W. James, M.D., offered the following resolution:

Resolved, That a committee of five be appointed by this Institute to attend to any and all arrangements connected with our representation at the International Homœopathic Congress to be held at Paris in 1900, except such matters as to papers and official correspondence that has been arranged for by the French International Committee in their appointment of our General Secretary.

Dr. Norton amended to have the committee three instead of five. The amendment was accepted by Dr. James. Whereupon it was submitted to the Institute and adopted. The President reserved his appointments on this committee.

Dr. Rockwell offered the following resolution:

Resolved, That the thanks of the A. I. H. are due and are hereby tendered to the local Committee of Arrangements for the efficient manner in which it has discharged the duties imposed upon it.

Dr. Aldrich submitted his report as Registrar, which was to the effect that there were 510 members in attendance; of these 62 were seniors; there were over 1000 visitors. The railroad representative reported over 1200 people attending from a distance.

From this Dr. Aldrich assumed that we ought to be entitled to half fare transportation. This is a point which he desired the next Transportation Committee to bear in mind in order to secure better rates for us than they have done heretofore.

Dr. G. J. Jones announced that the Transportation Committee of the Cleveland Chamber of Commerce have guaranteed a half-fare rate to Cleveland.

The Registrar's report was adopted.

The Press Committee through its chairman, Dr. King, made the following report, which was adopted:

Press Committee's Report.

Your Press Committee would respectfully report that anticipating this meeting by two or three months, we opened communication with the chairmen of the various committees and sections of the Institute, asking that they forward us early advance abstracts or copy regarding any especially important or interesting reports that they expected to make at this season. Many responded and your Press Committee have handled and placed in possession of newspapers some twenty-five abstracts of papers—many of these have been printed quite extensively.

The Associated Press has furnished for the first time in our history a special correspondent to cover these meetings and clippings from Buffalo, Chicago, Washington and Baltimore, and many more papers show extensive reports by papers in those cities.

Note.—The Philadelphia papers, especially the *Ledger, Press* and *Times,* have made excellent reports of all our meetings, both business and sectional.

The Associated Press made positive statements that they would send out full reports but could not state how much distant papers would print. Consequently your committee entered into communication with influential members in each of the more important cities of the country, requesting them to personally solicit their town papers to print fully from the Associated Press reports. In this way the committee have received much assistance and the Institute better reports.

The President then announced the committee and sectional appointments for 1900 which may be found following the list of officers on another page.

He added that while he could not give a chairmanship to Canada, yet because of its good turn-out and interest taken in our work he had arranged with the chairmen of certain bureaus to see that our Canadian brothers had a fair representation upon the several sections. That Dr. A. R. Griffith of Montreal would be secretary of the section of Obstetrics, and Dr. H. M. Patton would be in the Surgical section.

On motion of Dr. A. B. Norton following a few very effective words the Institute by a rising vote testified its appreciation of the excellent work done by its President, Dr. B. F. Bailey. After a few words from the President expressive of his heartiest thanks to the membership, he declared the Institute adjourned sine die.

SPECIAL ADDRESSES.

The Relations of Homœopathy to Allied Systems of Therapeutics,	Jas. C. Wood, M.D.
The Relations of Homœopathy to the Army and Navy,	Thos. E. Roberts, M.D.
Homœopathy as Related to Pedology,	Chas. Mohr, M.D.
Homœopathy as Related to Surgery,	W. S. Briggs, M.D.
The Relation of Homœopathy to Obstetrics,	D. A. Foote, M.D.

The Relations of Homœopathy to Allied Systems of Therapeutics.

By James C. Wood, A.M., M.D.

The treatment in vogue for inflammatory fever when Hahnemann became a student of medicine[1] was "venesection until the pulse returns to its proper strength." For cerebral and meningeal inflammation, "bleeding from the jugular vein and temporal artery, repeated as often as the strength admits." For ophthalmia, "bleeding, especially from the jugular vein; cupping on the nape of the neck; leeches to the temples and below the eyes, frequently repeated; purgatives and antiphlogistic medicines; blisters applied to the neck, behind the ears, on the head and temples; setons and issues in obstinate cases." For pneumonia "large and repeated blood-letting; when the strength does not admit of further venesection, cupping should be performed betwixt the shoulders; clysters, blisters, large doses of tartar emetic, etc." For toothache, "venesection, mercurial purgatives, sudorifics, emetics, scarifying the gums, leeches to gums, blisters behind the ears, etc."

Is it any wonder that even as early as 1790 Hahnemann wrote regarding the then existing method of treating disease—"Bleeding, antiphlogistics, tepid baths, diluent drinks, low diet, blood purifiers and everlasting purgatives and enemata are the vicious circle in which the ordinary run of physicians are always revolving."

[1] "Homés Principia Medicinæ."

It was a long way from venesection to aconite; but to the Sage of Meissen we are indebted for the abandonment of a practice which killed more people than all the wars of the Old World. It was a long way from Alexander's Golden Antidote, containing seventy-seven ingredients, to the single remedy, but the "Porcelain Painter's Son" traversed it with one stride, inaugurating a practice the advantages of which are acknowledged in one of the latest old-school works on therapeutics in the following words: "The scientific physician usually prefers to administer remedies separately, in order to more accurately observe their effects, as well as to discontinue, or change the dose of any one which may be necessary." It was a long way from the cruelties which characterized the treatment of the insane one hundred years ago to the present non-restraint system; but it was he who was driven from town to town by jealous apothecaries, who first wrote, "the treatment of madness should be conducted with a view to the absolute avoidance of corporal punishment." It was a long way from salivating doses of blue mass to fractional doses of mercury; from blisters, setons, issues, caustics and cauteries to soothing dry and moist heat; from powerful purgatives to pleasant laxatives; but the German lad whose father early gave him lessons in "thinking" inaugurated a new system of practice, and so directed his shafts of sarcasm at the horrible and disgusting methods then extant that no modern physician of any school would dare to revive them. Men like Fletcher, Mott, Forbes, Liston, Trousseau, and Bristowe of the older school have had the moral courage publicly to acknowledge the genius of Hahnemann and the good he wrought in the way of therapeutic and hygienic reform.

I have indulged this much in retrospection for the purpose of contrasting the past with the present. More than one hundred years have now elapsed since Hahnemann enunciated the law of cure which is the foundation stone of this, the American Institute of Homœopathy. Marked changes have during this period taken place in the dominant school of medicine—in the pharmacology and therapeutics of that school, as well as in its attitude toward the Homœopathic. Time has proved that Hahnemann was right in rejecting the pathology of his day, but I surmise that if he were now living his attitude toward the existing school of pathology would be very different from what it was in 1796. Indeed, Hahnemann's habit of inductive reasoning led him to anticipate many modern pathological theories. He early recognized that there is some latent cause which perpetuates chronic diseases, and that cause he traced to psora, syphilis and sycosis. Autenrieth has practically indorsed the psoric

theory, and the French pathologists have now recognized the *diathèse herpétique.* Lawson Tait affirms that gonorrhea is responsible for more disease and suffering than syphilis, and while he doubtless had in mind in making this statement the local manifestations of the disease as it attacks women, a gonorrheal dyscrasia (sycosis) is now recognized by all clinicians. Physiologists have again introduced into their nomenclature the terms "vital force" and "vital resistance," and all clinicians admit that there is a "something" constantly met with in contending with disease which makes one patient susceptible to, and another proof against, infection and contagion. The constitutional element is now recognized by physicians of all schools, and while it would be claiming too much for the founder of Homœopathy to say that his early theory of chronic diseases is entirely responsible for the present theories of causation, we can at least safely maintain that Hahnemann did more than any single individual did before his time, or has done since, to emphasize the importance of correcting constitutional dyscrasia by constitutional measures.

The germ theory of disease was anticipated by Hahnemann. As early as 1831 he alleged "that cholera was propagated by organisms which were conveyed by the air," and he advised the administration of camphor in material doses "in order to destroy these pestiferous microbes." Doubtless, were he alive to-day he would be one of the most ardent of asepticians as, while living, he was one of the most ardent of sanitarians. He would recognize that asepsis and antisepsis, as related to the germ theory of disease, have to do with the prevention rather than the cure of morbific processes, and he would have no fear of this theory invalidating in the least the law of similars.

The chief characteristic of modern medicine is the study of origins—the investigation of premises. The validity of dialectics is now questioned, and facts have supplemented arguments. Here again we find Hahnemann in harmony with modern thought. While he did not hesitate to propound a theory regarding the law of similars, he emphatically asserted that he attached no value whatever to any explanation, his own included, of this law "inductively founded upon innumerable instances."

While the modern scientist demands a minute demonstration of method, experimental methods can be satisfactorily applied only to the exact sciences. In the biological sciences it is impossible to repeat experiments as in chemistry and physics. This is especially true of medicine, for in disease no two cases are alike, and it is im-

possible to make invariable deductions because of constitutional bias, race, temperament and environment. It is true, nevertheless, that bacteriology enables us to isolate conditions in many instances, though "the number of variables is at all times embarrassing."—*Albutt.* If this be true in this last year of the nineteenth century, is it strange that Hahnemann attributed disease to an "unseen spirit" because he could not determine its cause? Even in this day, says Albutt,[1] "Physicians have not assimilated the lesson that disease is not an entity but a particular state of the body, and has no more of a separate or objective existence than, let us say, the constellations of the Great Bear or Charles's Wain."

The chief feature which distinguishes the Homœopathic school from the allopathic is that the former deals with the manifestations of disease rather than with its essence. The so-called regular physician, if his conceptions of scientific medicine are carried to logical conclusions, must have an intelligent theory of disease, with sufficient knowledge of the remedy to conform with the disease theory. The history of medicine shows the uncertainty of the premises upon which this high ideal is based. Galen, Paracelsus, Stahl, Boerhaave, von Helmont, and Cullen all tried to create systems of medicine founded upon the hypothesis set forth, and history records the results. During the last one hundred years pathological theories have come and gone like the morning dews, and the hypothetical qualities ascribed to medicine have, with few exceptions, proved uncertain and useless when subjected to ultimate clinical tests. I grant that by slow and laborious process pathological data are now at our command which are invaluable to the clinician; but, comparatively speaking, pathology is yet in its developmental stage so far as causation is concerned. The shibboleth of the orthodox school is yet *tolle causam;* but the theory of causation adopted by one decade is discarded by the next,—hence confusion reigns supreme, and vaunted specifics appear and disappear with kaleidoscopic rapidity. The germ theory of disease is the possible exception which proves the rule, and since it promises something tangible in the study of causative factors it would seem as though it had come to stay. However, up to the present time this theory, while it has enabled us to accomplish wonders along the line of preventive medicine, has done little or nothing toward the development of pharmacodynamics.

I cannot better contrast the advantages of attacking the phenomena of disease rather than its essence than by citing two remarkable

[1] *Johns Hopkins Hospital Bulletin*, April, 1898.

and somewhat recent illustrations. When Dr. Koch gave to the world his tubercular lymph, he had builded a theory based upon hypotheses which were supposed to conform to the requirements of orthodox conditions. Tuberculosis was supposed to be caused, and doubtless is caused, by living organisms called bacilli. The lymph produced by Koch was supposed to possess qualities which fitted it to the theory of the disease. While those qualities were necessarily hypothetical, the chain of logic seemed unbroken, and marvelous cures were prophesied and promised. Berlin suddenly became the Mecca of physicians and invalids from all over the world. But I need not weary you with the details. The Koch cure has now become a matter of history. Time has proved that the lymph is beneficial in certain types of tubercular disease, as it has also proved that it is beneficial in those types because it is homœopathic to the symptoms which characterize them. Had Koch recognized the necessary corollary of the law of similars, the minimum dose, he would have been spared the aggravations and disasters which followed his treatment; had he been more familiar with the workings of that law, he would early have known the types of cases in which his "tuberculinum"—a term long familiar to our school—was applicable. Koch's treatment of tuberculosis has become unpopular because it was based upon theory—and theory is ever shifting and variable.

Let me now cite an illustration of a different character. At the Detroit meeting of the American Institute of Homœopathy Prof. T. F. Allen presented a clinical case, the cure of which was accomplished by another method. The patient had been to various noted specialists and had received various diagnoses. There was some lesion of the nervous system which gave rise to the phenomena of "progressive muscular atrophy," and there was a pretty general concensus of opinion among the old-school fraternity that the disease was incurable and probably fatal. Dr. Allen ignored, so far as treatment was concerned, all the learned opinions which had been put forth relative to the pathology and prognosis of the disease in hand. A fatal termination would of course confirm the prognostic theory, and only a fatal termination could confirm or disprove the several pathological theories,—annihilation being necessary, in either case, to leave undisturbed the succession of events which comply with all the requirements of "scientific" medicine. But Dr. Allen's business was to contend with the manifestations of the disease, not its essence. As an intelligent physician, he was of course quite as familiar with the possible histogenic and gross tissue changes as were his old-school confrères; but this knowledge, had it been ab-

solute, would have availed him but little in curing his patient. The totality of symptoms suggested phosphorus, and phosphorus wrought a cure—not because the disease was or was not progressive muscular atrophy, but because its subjective manifestations had their counterpart in the provings of phosphorus upon the healthy. His prescription was based upon the law of nature immutable and unchangeable; Koch's was based upon an hypothesis put forth to explain known facts and phenomena. Dr. Allen would be quite as unscientific as was Dr. Koch were he to advocate phosphorus as a remedy applicable to all cases of muscular atrophy, even had he known with absolute certainty that the changes in the central nervous system were those giving rise to this affection.

The bit of inductive reasoning done by Hahnemann regarding cholera and its treatment is too familiar to justify anything more than reference to it. It is along the same line and I am not sure but that it is the only instance the history of medicine affords where the correct treatment of disease was outlined by one who had never seen a case, and who knew little or nothing of its causation or pathology; the treatment was based upon the phenomena of cholera and not its essence. It did for medicine, so far at least as the Homœopathic school is concerned, what Newton, and Kepler, and Ohm did regarding our knowledge of the physical universe,—proving that the treatment of disease, like all other physical phenomena, is under the dominion of law.

If, then, we are right in the assumption that the law of similars is a law of nature, and that it is the most universally applicable law of cure yet enunciated, as well as the most beneficent, let us ask ourselves the following questions:

1. Why has it not been more generally recognized by the dominant school of medicine as a working law in therapeutics?

2. What are the limitations of this law in the treatment of disease, and what should be our attitude towards other methods and systems of cure?

These are vital questions to Homœopathy, and upon their correct solution much depends. We must meet them fearlessly and without equivocation. We are at the threshold of a new century, and one hundred years has created a new school of thinkers in all departments of science. We must take new bearings and deal with modern conditions by modern methods. By so doing we shall win for Homœopathy many bright men who are kept from the school because of certain features which characterize it; features which are driving some of our best minds from us. In undertaking to answer

these questions I shall act in the spirit of one who believes with his whole soul in the beneficence of the law of similars; so much so that his most ardent wish is to see it recognized as the guiding law in all schools of medicine. That I shall answer the questions satisfactorily to all, or even the majority of my hearers, I do not expect.

1. "Why has not the law of similars been more generally recognized by the dominant school of medicine as a working law in therapeutics?"

I shall first note the fact that all great innovations destined to promote the welfare and happiness of mankind have been bitterly assailed by men acting under the influence of human passions and human prejudices. It was preached from the pulpits regarding vaccination "that Providence never intended that the vaccine disease should affect the human race, else why had it not before this time visited the inhabitants of the globe." Said the learned divines: "The law of God prohibits the practice; the law of man and the law of nature loudly exclaim against it."

When anesthesia was introduced, M. Megendie, the distinguished physiologist, argued before the French Academy of Sciences that "pain has always its usefulness;" he doubted if there was a true advantage "in suppressing pain or rendering the patient insensible during an operation," and argued that "it was a trivial matter to suffer (c'est peu de chose de suffrir) and a discovery whose object was to prevent pain was of slight (mediocre) interest only."

Nearly fifty years after Harvey had announced his great discovery to the world the Paris Royal Society of Medicine gravely listened to an essay which classed it among the impossibilities. Galvani was facetiously dubbed "the frogs' dancing master." Lavoisier, the noted French scientist, declared in discussing the possibility of aerolites, "there are no stones in the sky, and therefore none can fall upon the earth." Benjamin Franklin was greeted with shouts of laughter by the Royal College of Physicians of Great Britain when he declared the identity of lightning with other electrical phenomena. And as recently as 1822 Daguerre came very near being assigned to an asylum for affirming that he could fix his own shadow on magical metallic plates.[1]

While, then, the same dogmatism of science which has characterized all centuries and epochs will account for much of the opposition with which Homœopathy has had to contend, there are other factors inherent in Homœopathy itself which cannot be ignored.

[1] "Epochs in Medicine." (Wood.)

Chief among these, in my opinion, is the fact that certain men of the Homœopathic school have insisted, and still insist, that the "Organon" as an exponent of Homœopathy must be accepted by the followers of Hahnemann literally and in its entirety. The words which I used at the beginning of this paper indicate with sufficient clearness my admiration of the genius of the Master. I shall not be charged with disloyalty, then, if I say that certain passages of the "Organon" have done more to retard the growth of Homœopathy than all other things combined. I of course allude to the theory of dynamization, to the method of administering highly potentized drugs by olfaction, and to the theory that a single dose of a highly potentized drug continues to act almost indefinitely for days and even for months.

So far as the theory of dynamization is concerned, I am not even going to argue for or against it. I recognize the fact that historically it is a part of Homœopathy and that men like Dunham, Bönninghausen, Hering and Raue testified in no uncertain words to the efficacy of the higher potencies, as do many men now living who are earnest, honest and successful. I recognize the fact, too, that (in the words of Dr. Hughes) "infinitesimals of a most minute character are assuming an undoubted place and reality in the world of being." I would not restrict a single individual member of this Institute in his belief regarding the value of the higher dilutions; to do so would be to throttle freedom of thought and to stifle progress. But criticism of the "Organon" should not be confronted by "traditional views," which, as Dr. Briggs puts it in discussing higher Biblical criticism, "do not wish to be disturbed, and by dogmatic statements which decline investigation and revision." With the exceptions noted, the "Organon," judged even by the searchlight of latter nineteenth century methods, is a work of transcendent genius and contains much that is almost prophetic. Nevertheless, we should take it for what it is worth and should not hesitate ruthlessly to reject that which experience, reason and science declare absurd. We cannot expect to win converts by presenting to them unthinkable theories; we cannot expect to retain within our ranks bright and liberally educated men and women if we permit these theories to remain an integral part of Homœopathy.

The great conquests of Homœopathy have been won by the lower potencies[1], and it is hard for one of a materialistic turn of mind, like myself, to understand the necessity of departing from the realm of matter into that of spirit in dealing with the question of dose, espe-

[1] Hahnemann's dosage as traced by Hughes shows that until the later years of his life he used and advocated the lower potencies.

cially inasmuch as most of the high-potency advocates contend "that the size of the dose, so long as it does not produce aggravations, is immaterial." I repeat that I do not pretend to know to what extent matter and molecules are divisible. This ground has been repeatedly threshed over in the past, and so far as I can see but little good has come from it. My regret is that extreme infinitesimalism, and that which belongs to it, has become so intimately associated with Homœopathy as to keep it from becoming what it should be, the dominant system of therapeutics. A student educated in the modern school of thought will not be circumscribed; he demands reasonable hypotheses and debatable premises. Furthermore, he demands liberty of action, and unless these are furnished him by Homœopathy he will seek elsewhere. The provings of drugs upon the healthy is generally recognized by the older school; and the law of similars is admitted by nearly all as at least applicable in individual instances. The theory of dynamization as enunciated by Hahnemann is, however, beyond their grasp, and so long as we cling to it as a working hypothesis, just so long shall we fail to gain that recognition in the world of science to which we are entitled. For humanity's sake let us take the stand which will bring to the largest number the blessings of Homœopathy.

2. "What are the limitations of the law of similars and what should be our attitude toward other methods and systems of cure?"

I shall not take up seriatim the so-called antipathic, allopathic and isopathic methods of cure and discuss them in detail. Together with Homœopathy they are to be included under the head of pathogenic therapeutics, for in all of the four methods an effect is made to create one disease or lesion in order to supplant another. In the antipathic method of relationship between the existing disease and that to be created is one of direct antagonism; in the allopathic it is one of infinite diversity; in the isopathic it is one of sameness or identity; and in the Homœopathic, one not of identity, but of similarity.

The exceptions to the antipathic method are so numerous that we are warranted in setting it aside as a working law in therapeutics. It is safe to say that while palliation is possible by this method, cures rarely result from it. Thus it is obvious that an antipathic relationship exists between constipation and diarrhea; but it is hard to imagine an opposite "to scarlatina, measles, pneumonia, whooping-cough or dysentery and a host of other familiar yet dreaded affections."—*Dake.*

The allopathic method is the very climax of empiricism. The

aim is to make morbific impression by the drug or drugs administered, in this way instituting an artificial disease in the same organ and tissues affected, or in other organs and tissues, in order to supplant the natural disease. As a working hypothesis in accomplishing cures it has proved to be of even less value than the antipathic method.

The isopathic method is doubtless useful in certain cases, but to apply it intelligently it is absolutely necessary to know the *cause* of the disease—and we have seen how difficult it is to determine, even in the majority of instances, the factors responsible for given affections.

This leaves us, then, nothing but the law of similars to stand upon, except, indeed, remedies which act mechanically or chemically. But to what extent is this law applicable in the treatment of disease? Our own Dake, of precious memory, has so concisely expressed my own views upon this subject that I quote him in full. He says,[1] in discussing the sphere of similia: "If the relationship is the same in all cases where drugs act curatively, the principle thereby revealed must be universal, and, therefore, the paramount law of cure." But he further says:

1. "The Homœopathic law relates to no agents intended to affect the organism chemically.

2. "It relates to none applied for mechanical effect simply.

3. "It relates to none required for the development or support of the organism when in health, and

4. "It relates to none employed directly—to remove or destroy parasites which infest or prey upon the human body."

To this series of propositions I would add:

1. It relates to none which act in a purely eliminative way to rid the system of poisons and ptomains.

2. It relates to none which act in a purely physiological way, as a food, and

3. It relates to none which act in a purely stimulative or palliative way.

The first proposition set forth by Dake implies an infallible materia medica and an infallible mind to select the drug. That we have not an infallible materia medica is evidenced by the various conferences which have been held in connection with this Institute to improve it; that we are infallible beings would not be claimed even by one possessing the "conceit of omniscience." We must, therefore, utilize whatever good there is in empiricism—and it were pass-

[1] "Therapeutic Methods."

ing strange if three thousand years of empiricism had not taught us much. We must continue to eliminate toxins and ptomains by cathartics and sudorifics. We must stimulate the heart in cases of imminent danger by antipathic and physiological measures. We must dissolve gummatous tumors of the brain by chemical doses of the iodin of potash. We must feed our chlorotic and anemic patients with physiological doses of iron if they need them. We are to utilize local measures if local measures are necessary, and in incurable diseases we may have to assuage suffering by pain-destroying agents. In short, we must be physicians first and Homœopathists secondly—ever ready to utilize that which experience has demonstrated best for our patients. Whatever there may be good in suggestion (and suggestion will explain at least 50 per cent. of the cures made by all methods), in serum-therapy, in mechanics, in chemistry, or in preventive medicine, belongs to us quite as much as to our old-school confrères. Homœopathy has a broad field of application over and above all these expedients and methods; it excludes nothing outside of its domain which is useful. But empirical methods and expedients can be made unnecessary in the larger number of cases by the intelligent application of the Homœopathic remedy, and this point cannot be too emphatically insisted upon. We must, therefore, keep it before the world until the law of similars is recognized by every physician, every medical college, and every medical society in the land. Until such recognition is obtained we shall remain a sect with a "distinct" name.

122 Euclid Avenue.

The Relation of Homœopathy to the Army and Navy.

By Thos. E. Roberts, M.D.

The events of the past year have compelled every American citizen, irrespective of religious creed, political preference or medical school to give more or less attention to army and navy affairs. While the achievements of both land and sea forces have been so brilliant and the results so satisfactory, no department of either has escaped criticism. Dewey has been called a fool for risking the dangerous mines which were supposed to perfectly protect the entrance to the harbor of Manila. Notwithstanding torpedoes and mines he did his work so well that his name will go down to posterity in the galaxy of the world's greatest naval heroes. The blockading fleet before Santiago accomplished its task so perfectly that there has been a very sharp dispute as to whom the glory belongs. That little or big "loop" of Rear Admiral Schley's was almost enough to hang him in spite of his great victory. The capture of San Juan Hill has given yet more ground for criticism; still the Spaniards were forced from a stronghold which experts of fighting powers had pronounced impregnable to infantry attack without material aid from modern artillery. The commissary, quartermasters' and medical departments have not escaped their full share of criticism.

We, as physicians, from within and without the ranks, have watched and criticised the medical department to our hearts' content, if not to the betterment of the service. Some members of the Homœopathic fraternity have been particularly zealous in criticising fellow members who were fortunate enough to be commissioned as surgeons and assistant surgeons, even going so far as to stigmatize as cowards and traitors those who were willing to forsake home and all that was dearest in its ties that country might be served.

And why? Because these surgeons did the best they could with the implements at hand. Because, forsooth, they gave big pills when

little pills were not at hand. Because they used the medicines furnished by the government when requisitions for others would not have been honored. Because, forsooth, these "Homœopathic" surgeons gave quinine when it *was* indicated, and that, homœopathically, in larger doses than some of the privates thought they should take, and would not take; even though the plasmodium malariæ were running riot through their systems, laying the foundation for chronic malaria, from which the victims were doomed never to recover.

A few physicians, I do not know how many, who believe in the law of similars, who are more or less prominently connected with the new school, have been the cause of these criticisms from not only men in their own ranks, but also from a few of the old school fraternity, who thought they had a preeminent opportunity to shower derision upon Homœopathy. From one editorial, at least, one might judge that whatever praise these volunteer surgeons might deserve for patriotism and personal merit in being able to overcome the obstacles to their appointment, they were worse than the rankest cowards at San Juan, because they did not have a flag floating over the surgical headquarters, higher than the Red Cross—as high if not higher than the stars and stripes—bearing this inscription: "Similia similibus curantur; sink or swim, shake to death or yellow to death, we prescribe by this method alone." Through these journals many readers have been influenced to form erroneous opinions of the medical service and particularly of the duties of those who were appointed from the ranks of the new school. Bearing in mind these points, let us study closely the exact relation of Homœopathy to the army and navy, and then decide whether these criticisms were just. The medical department of the army has for its head a Surgeon-General. Under this officer are Assistant Surgeon-Generals, Colonels, Majors, Captains, Lieutenants and Acting Assistant Surgeons. One wishing to join this medical body must appear before the Army Medical Examining Board and give evidence that he is fitted for the position. He must give evidence of a good preliminary education and apply the same at examination. To be explicit I will briefly read a few paragraphs from the regulations bearing on this subject.

"Appointments of Assistant Surgeons are made by the President, after the applicant has passed a successful examination before a Medical Examing Board and has been recommended by the Surgeon-General. Permission to appear before the board is obtained by letter to the Secretary of War, which must be in the handwrit-

ing of the applicant, giving the date and place of his birth and the place and State of which he is a permanent resident, and enclosing certificates, based on personal acquaintance from at least two reputable persons, as to his citizenship, character and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years of age, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the board."

The regulations further specify the character of the examination, both mentally and physical, which the candidate must pass. "Hospital training and practical experience in the art of medicine, surgery and obstetrics are essential to the candidate's securing admission to the medical corps of the army. At least one year of hospital experience or its equivalent in practice will be required."

The successful candidate is commissioned as Assistant Surgeon, ranking as First Lieutenant. Promotions are made according to seniority after re-examination. Seniority and examination go hand in hand, as they should, preventing unmerited advancement.

Now these, gentlemen, are the regulations. They do not appear to be at all one-sided. No rule is here which excludes a candidate because he has certain therapeutic ideas or because he has graduated from a regular college, though that college may be enrolled as "Homœopathic." You will notice, however, at the very beginning, the regulations say the appointments shall be made by the *President* after the candidate has successfully passed the examination and been recommended by the Surgeon-General.

But, I hear some one ask, what about the volunteer surgeons? So far as the State forces were concerned, they were admitted under the "Hull" bill, practically in the same manner, with the *exception* that the commission came from the Governor instead of from the President, and the Surgeon-General did not recommend. The contract surgeons, however, were appointed by the President at the recommendation of the Surgeon-General, who was supposed to have satisfied himself as to the ability of the candidates. History tells us that it was right here that friction came. Applicants from Homœopathic colleges were turned down, *not* because they did not know *medicine,* but because they were not *"immunes."* More *recent* graduates from a "regular" college, and those who were strongly *vouched for* by friends, did not fall over to the stumbling block—not an immune. Had the President appointed one of these contract surgeons as a Homœopath and furnished him with requisite medicines, there would have been just grounds for complaint had the Surgeon gone

contrary to the intent of his commission, and practised otherwise than Homœopathically. On several occasions, however, the Surgeon-General made decisions favorable to the appointment of Homœopathic graduates as regimental surgeons, thus settling local feuds between the schools. The case of Charles F. Adams, of Hackensack, N. J., was made a precedent.

For eight years Dr. Adams had been an Assistant Surgeon of the N. G., N. J., which position he had obtained only by the most rigorous examination, at which every effort was made to down him, but without avail. He has the record of having passed the best examination of any surgeon in the State. Four years later, when the militia was reorganized, he was again subjected to an examination, which he passed with credit. When the State troops were called out in May of 1898 he was once more made a target for the most unjust discrimination, so far as the local Medical Board was concerned. He was privately given a thorough mental and physical examination, both of which he passed with greatest honor. The following morning he was informed that he had been rejected. Investigation developed that the sole ground for rejection lay in the fact that he was a graduate of the New York Homœopathic College and Hospital. Alive to the injustice, the Colonel of his regiment and the Governor of the State immediately interested themselves in the case, with the result that within twenty-four hours orders came from the Secretary of War that Dr. Adams be mustered in. He was commissioned as Surgeon with rank of Major, thus making him the senior medical officer of the regiment. Honors followed this representative surgeon throughout the campaign. Yet, members of the Institute, please bear this in mind, he was not mustered into the service as a *Homœopathic Surgeon.* He won the position by pure merit. He told me personally that he was confined in his choice of medicines almost entirely to the regulation army medical list. Could Dr. Adams consistently be called a traitor to his school? The precedent established in this case was followed in several others, thanks to the courage and ability of Dr. Adams, plus the sense of justice in his superior officers, including the Surgeon-General and Secretary of War.

In studying the question, the relation of Homœopathy to the army and navy, it seems to me that the following questions are quite pertinent, and let us remember that we are considering the regular, not the volunteer army.

1st. Has there been a demand for the army positions by the graduates of our colleges?

2nd. Has there been a call for special Homœopathic treatment from the men in the ranks?

3rd. Have the army officials habitually discriminated against Homœopathic graduates?

4th. Should we, on general principles, encourage sectarianism in army affairs; or, in other words, should we favor the appointment of strictly Homœopathic physicians as army surgeons?

According to my information, the first three interrogations may be answered in the negative. I have failed to discover that there has been any great desire among Homœopaths to become regular army surgeons. The average man in the ranks knows practically nothing about different schools of medicine. He has, in fact, very little need of medicine when once he is hardened in the service. By following the rules of hygiene he becomes his own doctor, and is practising the most modern treatment, prophylaxis.

The answer to the first question would also be that of the third. If there has been no demand for the positions, habitual discrimination at examinations could not exist.

The last question, however, gives a wider opportunity for discussion. Personally I have no hesitancy to answer this question also in the negative, disbelieving that sectarian agitation in military medical affairs would help the graduates of our schools one iota. The regulations are already as unsectarian in regard to medicine as they are to religion. They might be changed to exclude all who do not believe in Homœopathy, vaccination, or in the principles which underlie modern surgery. The *general* regulations might be changed to exclude all chaplains who believe in baptism by immersion.

The door is open to our graduates. Let them enter on their merits as *true physicians* and *surgeons* and then use whatever treatment they wish. If the medicine furnished can be improved upon, let the condition be demonstrated, and without any doubt the contents of the medical chest would be changed accordingly. No ban exists against the employment of donated drugs. If the department was shown that Homœopathic remedies were economical and practical, I do not believe there would be opportunity for donations.

If, then, we would encourage, more than hitherto, the graduates of the colleges recognized by this Institute to enter the medical department of the army and navy, and I believe we should, the following suggestions are offered:

1. The designation of colleges which shall give special inducements to those preparing for the service.

2. Such colleges should teach all that is included in modern scientific medicine, irrespective of "school."

3. In addition to the usual curriculum, a special department of military hygiene and surgery should be established.

4. The inducements of scholarships based on proficiency and successful entrance into the service.

5. The assurance that the Institute will use its influence in serving for such aspirants an examination which shall absolutely prevent discrimination so far as "school" is concerned.

Personally, I believe that the senior class in all medical colleges should receive special lectures on camp location, sanitation and the more important duties of the military surgeon.

Now, should it prove, after such preparation, the candidates meeting all the requirements of the army board, that he is rejected because he has received his training in a college which recognizes the value of Homœopathy, then we shall have just grounds for complaint, and could appear before the Secretary of War, the President of these United States, and both houses of Congress, if necessary, and demand redress.

In a communication to the editor of the *Philadelphia Medical Journal* of October 1, 1898, entitled "Sectarianism in the Army," the correspondent says: "The President and Secretary of War were appealed to by petition and in person to remove 'the ban upon Homœopathy,' and to give professed practitioners of that 'school' equal advantages with those claimed to be held by members of the regular profession. In the usual course of events, some practitioners of the Homœopathic profession were appointed to the position of regimental surgeons. Inquiry among those best informed seems to put the fact beyond much question that the 'Homœopathic' treatment dispensed by Homœopathic surgeons did not differ in any essential from that employed by the regular surgeon. It is just to say that the 'Homœopathic' practitioners appointed were men of creditable standing, whose practical scientific attainments were clearly recognized and generously acknowledged by their regular associates."

We would say in reply that the "Homœopathic" surgeons were not, so far as we are informed, commissioned in any case *as such,* nor were they appointed as representatives of that "school." Strictly speaking, a "Homœopathic surgeon" is a misnomer. There are many surgeons who believe in the general application of the law of similars who are styled "Homœopathic surgeons."

The treatment dispensed by the "Homœopathic surgeon" was

such as the circumstances permitted. To my personal knowledge it was many times strictly Homœopathic and would have been more so had we the proper medicines in our armamentarium. When we could not use what we would, we did the next best thing and prescribed what we could, with results, it must be acknowledged, which warranted the treatment.

Allow me to quote the following from the end of the letter: "Does Homœopathy to-day stand for nothing more than a hollow opposition to 'regular medicine?'" Too often it would appear that this question would be answered in the negative. However, the rank and file of Homœopathists would say that Homœopathy of to-day stands for something better than antagonism; it stands for all the essentials of modern scientific medicine as taught in the regular schools, plus the emphasis in materia medica and therapeutics of the law of similars and special Homœopathic methods. When the regular school will give Homœopathic materia medica and therapeutics their *proper places* in the regular curriculum, the sectarian name will very soon disappear. But should the name disappear, there will be just as much difference in individual prescribing as there is at present in all schools.

The *Medical Advance* (a Homœopathic journal) of October 15th contains an editorial which deserves and would receive condemnation from any one fully acquainted with the facts. Among other statements appears the following, referring to the campaign of last summer and the surgical staff of the First Illinois Volunteers:

"There has not been such an opportunity this century, and there may not be in the next, for demonstrating the superiority of similars over all other methods of practise in that much-dreaded scourge of the 'Gem of the Antilles,' yellow fever, and yet it was wilfully thrown away by our weak-kneed representatives who received their appointments as Homœopathic surgeons, who in the hour of trial deserted the trusts sacredly confided to their keeping, and sold their birthright for a mess of pottage. Better, far better, not to have had a representative on the surgical staff than to have had the humiliation of knowing that our chosen representatives went over to the enemy."

If the writer of this editorial had an atom of judgment in proportion to the courage which he evidently desired to see in others, he would have personally consulted the surgeons referred to and thus saved stating that which is so far from the truth. The members of the surgical staff of the First Illinois were not appointed as "Homœopathic surgeons," therefore they could not as such "wil-

fully desert the trusts sacredly confided to their keeping." The medical history of the Illinois Volunteers has been given at length by Col. N. Senn, Surgeon-in-Chief of the operators in the field, in various numbers of the *Journal of the American Medical Association*. By referring to these you can learn even the questions which were used in the examinations. The special history of the Surgical Department of the First Illinois briefly is as follows: Wm. G. Willard, C. H. M. C. '87, Rush '98, Prof. Gyn., C. H. M. C., Maj. and Surg.; Thos. E. Roberts, C. H. M. C. '88, Rush '97, Prof. The. Prac., C. H. M. C., Capt. and Asst. Surg.; C. Bruce Walls, '94, Lect. Surg. Pathol., C. H. M. C., 1st Lieut. and Asst. Surg.

From start to finish we had our full share of sickness. After reaching Cuba July 10th, the sickness gradually, for a few days, then suddenly increased, till at one time the sick list ran up to almost 400 per day. During the heaviest sickness the regiment had but two surgeons, Dr. Roberts having been detailed from the regiment and placed in charge of the Third or Provisional Division Hospital. From this special detail he was not relieved till the troops reached Montauk Point September 1st. The bulk of the regimental medical work then was done by Major Willard and Lieutenant Walls. To them great credit is due for the fact that a death-rate of only about one per cent. was reached in the men under their charge while on Cuban soil. The deaths from yellow fever occurred at the Yellow Fever Hospital, where the regimental surgeons were not on duty.

The writer had charge of the Third or Provisional Division Hospital, there coming in contact with the very sick of several regiments. Even here, under conditions which at times were very trying, the death-rate for about a thousand cases was only between three and four per cent. In conclusion, then, Homœopathy bears the same relation to the army as the "regular" school. No man should be admitted simply because he is a Homœopath. Each surgeon should go into the service on his merits, prepared to use one weapon as well as another. Armed thus liberally, the honest scientific believer in the law of similars can do eminent service for his country and his school.

Has not this Institute in no uncertain tone voiced the feeling of the rank and file of its members concerning the relation of Homœopathy to general medicine? The government should know that we are for all that is truly best in scientific medicine. The government should know that the believers in Homœopathy do *not* clog the wheels of medical progress; on the contrary, that we are the pioneers in modern therapeutics and stand ever ready to add

our help in accelerating the advancement of medicine in general and in particular. When we have unquestionably demonstrated that such is our position we shall be above criticism by even the government.

Homœopathy as Related to Pedology.

By Charles Mohr, M.D.

Notwithstanding the fact that many infants and children are reared, escaping great dangers during the developmental period of life by proper feeding and hygienic measures, no little credit is due to Homœopathy in their treatment. Fortunately for the growing infant and child, many a parent has given Homœopathic treatment, when medicines were needed, because the medicines are "so easy to take," even though the parent when sick prefers large doses on antipathic or allopathic principles. The lives of children that have thus been saved is beyond computing, for of late years it has been recognized even by old-school authorities on pediatrics that the drugging of children is pernicious, and so laymen who *would* give medicine have used Homœopathic pellets, and well-versed allopathic doctors have almost entirely depended on dietetics in their treatment of sick children.

Any unprejudiced person who will carefully study the history of Homœopathy, and compare the many carefully compiled statistics of the relative value of the two schools of practice—allopathic and Homœopathic—must be convinced of the superiority of the Homœopathic method. Take into consideration briefly Scarlatina, with which belladonna is inseparably connected. What Homœopathist since Hahnemann's day has not found the drug curative and prophylactic in suitable cases?

Osler gives the mortality-rate in scarlet fever in hospitals and among the poorer classes as ranging from 5 to 10 per cent. in mild epidemics to 20 or 30 per cent. in severe epidemics. What Homœopathist has ever met with so great a mortality in hospitals or private practice? What say statistics? In nearly all large cities scarlet fever, as a rule readily diagnosed, must be reported under the contagious diseases regulations, and therefore credence may be placed in the figures given by health boards. Take the statistics of the

years 1892-5 in nineteen of the principal cities of the United States, East and West, compiled under the supervision of Dr. David A. Strickler of Denver, and we find that out of 27512 cases of scarlet fever reported by old-school physicians the deaths numbered 2378, while out of 4603 cases reported by Homœopaths the deaths numbered but 229. Expressed in percentages, the allopathic mortality was 8.99, the Homœopathic mortality 5. Dr. George B. Peck, of Providence, R. I., has shown that out of 1271 cases of epidemic scarlatina, the allopaths lost 127, or 9.99 per cent., while the Homœopaths treated 209 cases, losing 7, or 4.30 per cent. At the same time measles prevailed, of which the allopaths treated 286 cases with 51 deaths, or 17.83 per cent., and the Homœopaths treated 106 with only 2 deaths, or 1.88 per cent. Measles is usually considered a mild disease—a mistaken notion by the way—but why is it that the allopaths lost seventeen cases to every one the Homœopaths lost? Does not this alone show that there is danger in allopathic drugging? and conversely, does it not show the beneficence of Homœopathic prescribing?

Again let us consider pertussis. Taken with its complications, whooping-cough must be regarded as a very fatal affection. So writes Osler. As to treatment he says: "Like other infectious disorders it runs its course practically uninfluenced in a majority of cases by drugs." . . . "For the paroxysmal stage a suspiciously long list of remedies has been recommended, twenty-two in one popular text book on therapeutics. If the disease is due, as seems probable, to a germ growing upon and irritating the bronchial mucosa, a germicidal plan of treatment seems highly rational and persistent attempts should be made to discover a suitable remedy."

Another old-school authority has written: "Hooping cough presents a remarkable example of the labyrinth into which physicians are led at the bedside, when the nature and seat of a disease are unknown to them. There is no remedy of any consequence, no mode of treatment which has not, in its turn, been tried for this disease, extolled and finally rejected." Oh! if Dr. Osler and others like him only had the courage to investigate and try the Homœopathic remedies, and stop speculating as to the pathogenetic germ, and what would destroy it! How different the treatment, and with what confidence the true Homœopathist applies his remedies in pertussis. What Bœnninghausen wrote in the preface of his work on Hooping Cough is as true to-day as it was when first presented. "Fatal cases are hardly to be reckoned among the possible terminations. There must be a rare concurrence of the most unfavorable

conditions, as well in the constitution of the patient as in the external influences to which he is subjected when the disease terminates fatally. But, in such cases, death is not to be ascribed to the Hooping Cough ALONE, to which only a greater or less share of this unfavorable termination, rare as it is, can be attributed; and death would probably, in such a case, have the result, in like manner, of ANY serious disease whatever its nature might be."

"From the sequels too, so frequent and so lamentable, little is to be dreaded under the Homœopathic treatment. For, on the one hand, the power and energy of the disease are broken in a few days; and, on the other, the chronic miasm which is being aroused by it (call it scrofula, psora, or what we may) and in which the roots of these sequelæ generally rest, may be speedily and surely removed by remedies which Homœopathy, likewise, has in her possession."

"In all cases, however, without exception, a great and incontestable advantage of Homœopathy is found in the fact that it very considerably abridges the duration of the disease, and, to speak with the utmost moderation, requires for a complete cure, not so many weeks, as allopathy requires months."

"We may then assert, with great confidence, under Homœopathic treatment, the prognosis and termination of Hooping Cough are thoroughly favorable."

Statistically, Dr. George B. Peck, shows that in a children's asylum under Homœopathic control, all of 181 children with whooping-cough recovered, while reliable allopathic statistics show a death-rate of from 3 per cent. to 15 per cent.

Of late years, especially under the fostering care of the present President of the American Institute of Homœopathy, pedology has has received marked attention. And it is well that this is so, and I trust that never a session of the Institute will be held without duly considering the all important subject of the care and treatment of children. Let me call attention to the very suggestive paper on "The mortality of babies," by William Moore Decker, M.D., of Buffalo, New York, presented at the last meeting of our national organization. His figures are appalling! In one year (1895) in New York State there died 38,711 children under two years of age, and it is shown that about one-third of all deaths occur in babyhood, *i. e.*, in children under two years of age.

Can such an apalling mortality be prevented? I believe it can. The criminal carelessness shown by mothers; the bad food supplied to babies when artificially fed; the heterogeneous drugs administered to babes when sick, all undoubtedly add to the causes of death

in these little ones, deserving our best care and concern. How many of the 38,711 babes who died as reported by Dr. Decker, think you, ever received a Homœopathic remedy? Probably not 1000 of the whole lot. Dr. Decker in concluding his paper, says: "The prevention of the mortality of babies—what a grand field for humanitarian work! What a splendid opportunity for sanitation! What an opening for advanced therapeutics!" And I want to emphasize the words—WHAT AN OPENING FOR ADVANCED THERAPEUTICS! Here IS the splendid opportunity. Let every physician all over the land make a special study of infant and child life—indeed I would even include prenatal life—and following such master workmen as Hahnemann, Hering, Bœnninghausen, Jeanes, Lippe, Neidhard, Dunham, Guernsey, Lillienthal, Raue, Farrington and a host more in a strict adherence to the principles of Homœopathic prescribing when medicine is needed, raise a nation of healthy men and women.

It can be done. Again I say, study the history of our School, and profit by its literature. What method of treatment save the Homœopathic could be employed in the cases of acute hydrocephalus spoken of by Von Grauvogl in his masterly "Text-Book of Homœopathy"? Briefly he gives the history of a young married couple whose two children died of the disease, although both parents were apparently healthy. Both were blondes, the husband spare, the wife of full habit, and like many such women, was obliged to feed her babes artificially for lack of mother's milk. During successive pregnancies, *sulphur* as a nutritive remedy favoring soft tissue formation, and *calcarea phosphorica* favoring bony development were administered to the mother, with the most gratifying results. Only healthy children were thereafter born to this couple. Von Grauvogel writes: "This is not a solitary case, for I have pursued this method for six years in all families in which there have been hydrocephalic children, with the same good results."

At the very threshold of independent life, how often the obstetrician meets with cases of asphyxia, in which it is not only necessary to resort to mechanical treatment, but in which Homœopathic medicines play no small part in bringing about a favorable result. Who has not seen the syncoptic or anemic form of asphyxia nenatorum in which there is no sign of life, the child's body relaxed, pale and cold, just born of a debilitated mother, or of one who has lost considerable blood during parturition, and where *cinchona,* even when stimulation by heat seems nugatory, sets the life current and breath going?

Then we may have the apoplectic or hyperemic form of asphyxia at birth. The child is large, plethoric; the labor has been long and hard, or the cord has constricted its neck, and we have before us a red, bloated, hot babe, with only occasional and spasmodic circulatory and respiratory functions. Who does not appreciate the value here of *aconite?*

Again a case presents itself where a new-born large and fat babe is threatened with suffocation. The presence of mucus is a mechanical obstacle to respiration; the face is bloated, bluish red; the eyes protrude; bloody froth oozes from the mouth or nose, and feeble attempts at crying are made. Remove the mucus from air passages, resort to artificial respiration, but some cases do not do well until a few doses of *ipecacuanha* have been given.

Who of the older practitioners of Homœopathy have not seen cases like the one described in a felicitous paper by Dr. Albert G. Anthony, recently read before the Medico-Chirurgical Society of Central New York at Syracuse? A little boy six years of age with frequent recurrences of so-called "worm symptoms," is irritable and perverse, and subject to attacks of peculiar unrest, for which he was cruelly punished by his parents. As the child grew worse, facial hemiplegia, atonic muscles, and other evidences of trophic changes were duly recognized by Dr. Anthony, and their import pointed out to the now sorrowing parents. Fortunately, however, Homœopathy came to the youngster's assistance, and under *silica* there is a gratifying improvement, with every prospect of a complete recovery.

Again, who has not seen *silica* save a member from amputation by the surgeon's knife? A boy with a badly treated crushed finger becomes more and more ill, irritable and obstinate, owing to the pain and fever occasioned by suppuration. The old-school surgeon says: "I must amputate that finger." "Not so," says the Homœopathist; he gives him *silica*, and the finger continues a useful member.

We hear of another case like this. A male child since babyhood has recurrent attacks of asthma followed by spasmodic cough of several weeks' duration. He is treated for several years with antiasthmatics and antispasmodics, cough-syrups, etc., but grows continually worse, until the Homœopathist by careful investigation traces the trouble to ascarides and finds the similar in *cina,* which is prescribed during the beginning of an attack. The paroxysm is markedly shorter and less severe, and a repetition of the same medicine a few months subsequently aborts an attack and effects a radical cure.

The Homœopathic doctor is called in to see a child given up to die of capillary bronchitis. He finds the little one gasping for breath, the lips blue, the fingers blue and cold, the respirations uneven and irregular, the cough smothered on account of pain, or more especially infrequent from sheer weakness, and despite expectorants, and stimulants, and poultices death really seems imminent. But a few doses of *antimonium tartaricum* changes the picture, and comfort is insured by the removal of the poultices, and in a few days the clean and again happy babe is surely convalescent.

Infantile scorbutus is a disease in which the regulation of the diet and the plentiful administration of orange juice often bring about a favorable result, where drugs, such as many allopaths are wont to employ, do more harm than good. But given a case where besides the anemia, the sensitive bones, the swollen diaphyses just above the epiphyses (most prominent in the legs), the simulated paralysis of the affected limb, the hemorrhagic maculæ and spongy gums, we finally have the supervention of entero-colitis, with an utter inability to take any food, and the little sufferer seemingly dying, who would not believe in Homœopathy, when such an one recovers completely in a few weeks after the administration of minute doses of *Nitric Acid?*

Case after case of like gravity, covering the whole range of the diseases affecting children, might be cited, and if all Homœopathic practitioners were to relate their experiences the cases could be multiplied by the thousand, to substantiate the claims we make for Homœopathic treatment. But even in this short paper sufficient has been said to prove its superiority to any other medical treatment, and it seems to me the only obstacles to the universal adoption of the system of treating likes with likes in the case of children are the disbelief in the superior claims set forth in this address, and the trouble and patient study that are required to prove such claims by individual experiment. And we, members of the American Institute of Homœopathy, should strive with all our might to see that a belief in our system of therapeutics is engendered and kept alive, and by honest example to induce every physician of every kind to give the system a trial.

The difficulties to be surmounted in correctly diagnosticating and treating children are infinitely greater than those encountered in adult life. But long and patient observation, and experience will enable one to understand aright the variety of symptoms arising in the SAME disease, but differing in individual children on account of age, environment, inherited traits, etc. When one has learned to

appreciate the fact that treatment by medicines, as well as by dietetics and hygienics, must correspond more to the special group of symptoms brought about by the peculiarities of the individual and the phase of the child's development, than to the special disease, when by reason of this close study, and such a knowledge of drug symptomatology, as will enable one to apply the SIMILAR to each individual case, according to the Hahnemannian rules—thousands of precious lives will be saved.

Homœopathy as Related to Surgery.

By W. S. Briggs, M.D.

Until within recent years, has surgery taken any part with the Homœopath, other than with his remedies and even to-day we find many of the "true blue, old line, Homœopaths" willing to sit by the bedside and see his or her patient die under remedies, rather than have the awful "butcher" cut and mangle him. Yes they would see him pass into the hands of the allopath, where he would not get the desired results, rather than the school of Homœopathy disgraced by the knife. Thanks to the ever onward advancement of the science, as well as the physician, those doing thus are fast fading away.

The time has arrived when remedies are restoring many and keeping them from the knife of the old-time surgeon. We admit many cases formerly consigned to an untimely grave, are restored to their friends through the aid of the knife. There is no field in surgery where the Homœopathic remedy does not come as an ever ready and efficient help to the knife and often, very often, robs the knife of its field for the relief of human suffering. In the prevention of cases going to that stage where the knife is all essential, lies a large field for Homœopathic remedies.

For instance: In an attack of appendicitis how often is the inflammatory process checked before pus formation, with bryonia, nux vomica, etc. Or, in threatened mastoid abscess, we find, according to Hall, capsicum almost a specific. Orchitis is relieved by pulsatilla, and the gland saved from extirpation. So often is this done that our old-school journals have made another of their "new" discoveries.

How often we hasten suppuration, if it be desired, or, still better, check it, and restore a gland or remove the cause for inflammation and keep the patient from the knife, the only resource of the old school. Again: When the knife has been used, how much more certain are we of union by first intention, by controlling the reaction, and thus prevent undue inflammatory deposit, with aconite or arnica;

or rapid granulation and complete restoration by the help of a little silicea.

In caries or necrosed bone, what nature has been trying to remove has been accomplished by the gouge and chisel. How much sooner will the bone, left, be strengthened by the help of a little calcarea flouricum? Again we find cases of bruised, torn or lacerated tissues; by the internal administration of aconite, arnica or hypericum the patient's system is put into such a condition that the restoration of the part is possible without the knife.

You'll say: "This is the field of the general practitioner." So be it. But none the less of the surgeon. For were it not for Homœopathy the allopathic surgeon would get all these unfortunates. Then comes the cases that are past cure by remedies alone. The Homœopathic surgeon takes the knife and removes the offending part; be it limb, tumor or intestine. When reaction from the operation sets in, what does he do that will lift his patient out of that condition where the pendulum has swung too far to the side of reaction and he has an abnormally high temperature? What helps him as does aconite? And, if the tissues be bruised, what can compare with arnica? Or, if the nerves be crushed or otherwise injured, where have they anything to compare with hypericum? Or, the tendon strained or torn, with rhus toxicodendron? Or, in injuries to the serous membrane, what is better than bryonia? And so on; ad infinitum.

This same rule we find true in internal injuries. We see a case of an old lady who has fallen across some projecting object; striking in the small of the back. This is followed by hemorrhage of the kidney. Later blood and pus pass freely. "The kidney must be removed," is the verdict of a number of our old-school friends who are present. We say: "Do not be too hasty; let us wait a little and see what remedies will do." We find the back, at the renal region is deeply ecchymosed; sensitive; with a general soreness and lameness of the whole body. We tell the interne, who is an allopath, to give the patient arnica every hour till further orders. He says: Yes; and turns away with an incredulous smile. Twenty-four hours later we find her generally better; able to drink a little milk and buttermilk.

We continue the arnica, followed by bryonia, cantharis, etc., never giving a dose of anything but Homœopathic remedies. In a short time the blood and pus decrease, the fever subsides, and the patient passes on to convalescence.

Again: A feeble old man is brought in who has fallen and fract-

ured a number of his ribs. He develops pneumonia. Our old-school surgeons throw up their hands and are utterly helpless. Their prognosis is: "Certain death." "It will be no use to do anything. We tell them we will try and see what Homœopathic remedies will do for him. After having his ribs dressed he is put upon such remedies as bryonia, tartar emet., phosphorus, etc.; absolutely nothing but Homœopathic remedies and he is rapidly restored to his normal health.

Again: A young man falls seventy feet from the top of a building under construction; probably striking about every fifteen feet of his fall as he passes through the joist for each floor; finally landing on the concrete pavement in the basement. He is taken out still breathing. We find him unconscious, pulse irregular and in a profound shock. A large scalp wound and V-shaped fracture at the base of skull; hemorrhage from the ear and a fractured nose. He undoubtedly has severe concussion of the brain. He is taken to the hospital and wounds dressed. Aconite and arnica are given; followed by hypericum. The fifth day he sat up in bed to have his head dressed and on the fifteenth day rode to Minneapolis, his home, in an ordinary buggy. He progressed from the start to perfect recovery; with no treatment, except the Homœopathic remedies, beyond the dressing of the head.

Thus we find results in all hospitals, both public and private, where the tendency is almost universally in favor of the old school; where the old-school operators are as good as any—so far as technique goes—with the same surroundings; patients often in the same room; tended by the same nurses. Those who call in the Homœopathic surgeon having the highest record of recovery and in the shortest times. They carry off the banner in all major operations.

If Homœopathic medication, or surgery—as applied to the knife—were to be divorced and I compelled to choose the one to the exclusion of the other, I would say: "Give me Homœopathic remedies; because I can do more good, to more people, surgically afflicted," But, fortunately, Homœopathic surgeons have both.

Why is it, when a Homœopathic staff is admitted into a public institution, in cooperation with the allopathic staff, where surgery constitutes a large proportion of the work, that the one paramount condition, imposed, is that no comparative statistics shall be made? Who is it asks this? Not the Homœopaths.

The Relation of Homœopathy to Obstetrics.

By Dellizon A. Foote, M.D.

Epochs in human history are the products of genius. The transitions in knowledge from stage to stage have been made, not by slow continuous progress, but by sudden interpolations of new thought.

Humanity is not moving slowly up an inclined plane, but its periods are separated by vast chasms which seem to be the limit of further advancement. Genius bridges these chasms and mankind passes over into broader and brighter fields of action.

In the sixteenth century, after the startling conjectures of Copernicus, astronomy seemed at a standstill. Tycho Brahe amassed at his observatory a large array of facts which seemed, however, only to bewilder him, for he still maintained the immobility of the earth.

The keen-eyed Kepler saw these pregnant facts, and in his wonderful mind they began to germinate into new discoveries. Over his three-arched bridge the sublimest of the sciences crossed the gulf from the Ptolemaic to the modern system.

During the latter part of the eighteenth century, when dogma and empiricism had blocked the progress of therapeutics, and medical knowledge depended almost entirely upon tradition, the genius of Hahnemann bridged the chaos of old-school therapeutics and gave to modern medicine its rational basis.

The conception of the theory, the demonstration of the law and its translation and embodiment in terms which secured scientific accuracy in the prescribing of medicine, is the glory of the genius of Hahnemann, the philosopher and physician.

In no field has this system of medicine been more beneficial than in obstetrics. The revelation which Homœopathy sustains to obstetrics is the same benign and harmonious relation which exists between any natural laws. Want of harmony obtains only in the improper application of law. Nature often depends upon brains in the working out of her processes, and so science and art are often called upon to bring about an orderly sequence of natural events.

Science and art are just as potent when they quietly approve of the course of events, as when they exercise their beneficent offices in assisting nature to overcome obstacles.

The science and art of obstetrics then comprises a knowledge of Homœopathy as one of the proven laws of nature, which is most important in the care of the accidents and incidents of childbirth; just as it also includes hygiene, dietetics, surgery and nursing in their proper sphere of action.

The Homœopathic School of Medicine has no apologies to make to science. Whatever real improvements have been made in the technique of the prophylactic or surgical treatment of the parturient woman have found ready acceptance by the members of the New School of Medicine. Our patients are protected from sepsis and other accidents as effectively and intelligently as is possible.

There is a broad catholic spirit of liberty in the Homœopathic School of Medicine, which gives to her physicians freedom to appropriate truth wherever found, and set its influences at work along any avenue of utility to the patient. So antisepsis, asepsis, surgical cleanliness, medical physics, mechanical devices, anesthetics, etc., all have their appointments for the emergency which calls for their beneficent work.

A few practical questions challenge us:

First. Is Homœopathy superior as a system of medicine in meeting the therapeutical emergencies of pregnancy?

Second. Does Homœopathy as a system of therapeutics add to the effectiveness of aseptic prophylaxis in midwifery?

Third. Is Homœopathy superior in meeting therapeutical emergencies in the lying-in chamber?

Taking up the first question, namely: Is Homœopathy superior as a system of medicine in meeting the therapeutical emergencies of pregnancy? we find that pregnancy is a physiological condition. A woman of perfect physique and health, however, would still need the advice from a skilled physician as to the proper care of herself during this important period, in order to avoid conditions which would lead to complications. However, the physician finds so many and serious deviations from perfect health in woman that his services are being called for continually to care for the diseases of pregnancy, and volumes have been written in exposition of the various pathological incidents of this period.

Habit, environment, heredity, are fruitful of conditions pernicious to the health of woman, and the period of pregnancy is often the opportunity of the physician. He may then correct and relieve

conditions, which at other times would be tolerated and neglected. The motherly instincts of the woman lead her to make many personal sacrifices for her health, thereby insuring sturdy offspring. Pregnancy is often the physical salvation of woman.

Here is the science and art of Homœopathic physicians most conspicuous and illustrious. Having mastered all the collateral problems of hygiene, diet and mental conditions, he ministers to the patient and not to the superficial symptoms only.

Taking a complete history of his patient, he brings together all the factors which enter into his problem. He then applies the Homœopathic law of cure, and the results are most satisfactory. He studies all the elements which enter into the diseased condition and the present symptoms which clamor for relief are often made subservient to more remote symptoms which may be casual.

The symptoms of his case are not synchronous, but are links reaching back into years, forming a chain which is apparent to the careful diagnostician. With this totality of symptoms he can apply the remedy according to the established law of Homœopathy and confidently expect the results which must follow scientific medication. He has complied with the conditions intelligently. He is employing a force of nature according to her laws, just as the machinist employs the laws of gravity or electricity, and although unable to explain how the force works, he knows it works. Hence to the question—Is Homœopathy superior as a system of medicine in meeting the therapeutical emergencies of pregnancy, we answer, yes.

First, because the testimony of thousands of physicians have given it a practical test and have found it entirely satisfactory.

Second, it is the only system of therapeutics which has a scientific basis and hence is especially applicable to the delicate conditions which arise during pregnancy.

Third, it is superior in that it administers the minimum amount of medicine and hence avoids the dangers, to both mother and child, arising from the exhibition of large doses of medicine.

A comparison of text-books discussing the methods of treatment of the diseases or accidents of pregnancy reveals the abundance of the materia medica of the Homœopathic school, and the extreme poverty of remedies of the old school. To mention the details of this part of the subject would make this paper too long, but in nausea, vomitting, anorexia, headache, insomnia, anemia, albuminuria, mental disorders, traumatisms or infectious diseases, how rich

is the storehouse of our materia medica and how salutary and beneficent its blessings.

The second question, Does Homœopathy as a system of therapeutics add to the effectiveness of aseptic prophylaxis in midwifery?

At the present day it is generally admitted that the best germicide is healthy blood or the capacity of the cells and fluids of the body to repel and overcome invading micro-organisms. The fact that Homœopathy is especially successful in the treatment of psoric taints of the blood and in overcoming the various constitutional diseases which inflict mankind adds greatly to the effectiveness of prophylactic measures by increasing the resisting powers of the patient while using all the expedients for protection against infection.

Dr. Geo. B. Peck the veteran logician, who reinforces his arguments with live figures, reported to the Institute in 1892 that over sixty Homœopathic physicians reporting to him had practised medicine terms of years varying from seventeen to forty-three years without a death or a case of puerperal fever. In another series of reports, one physician had practised forty years with but one death from puerperal fever; another thirty-three years, another twenty-four years with but one case of septic fever. Such reports as these ante-dating the days of aseptic measures by several decades, can only be construed as showing the surpassing efficacy of Homœopathy in obstetrics. The affirmative answer of this question is necessarily apparent.

Third, Is Homœopathy superior in meeting therapeutical emergencies in the lying-in chamber? It is here that Homœopathy has won some of its greatest triumphs.

The Homœopathic obstetrician brings with him to the accouchment all that science and art have devised and acquired to lighten woman's burden, and he also brings his Homœopathic remedies. What a mass of incontrovertible testimony as to the efficacy of Homœopathic remedies in obstetrical emergencies could I secure from the members of this Institute. I can not forbear mentioning some old and tried friends which so often overcome obstacles in a most gentle and satisfactory manner where no other system offers medical aid. What Homœopathic physician would think of going to an obstetrical patient without caulophyllum, gelsemium, pulsatilla, aconite, arnica, belladonna, viburnum, chamomilla, and yet these remedies are not found in any other but an Homœopathic obstetrical bag.

I have some figures which are up-to-date, and which are impossible to excel.

Martha G. Ripley, M.D., physician in charge of the Maternity Hospital of Minneapolis, Minn., reports as follows in response to questions regarding cases for past year:

1. Number of maternity patients treated, 45.
2. Number of patients having puerperal fever, none.
3. Number of instrumental deliveries, 30.
4. Number of patients recovered, 45 (or 100 per cent.).
5. Number of deaths, none.

This report is for one year. During the past eleven years 500 maternity cases have been cared for in this hospital, with not a single case of puerperal fever, nor a death from any cause. I doubt if another such a report covering such a period of years can be furnished by any other system of medicine. These patients had the advantage of Homœopathic treatment. Such a remarkable report must challenge the attention of the medical world and an intelligent laity.

Another report comes from Antoinnette E. C. Russell, M.D., Superintendent of the Maternity Hospital at Twentieth street and Susquehanna avenue, Philadelphia, Pa.:

1. Number of maternity patients treated last year, 52.
2. Number of patients having puerperal fever, none.
3. Number of instrumental deliveries, 6.
4. Number of patients recovered, 52 (or 100 per cent.).
5. Number of deaths, none.

Another illustrious example of what Homœopathic obstetricians are doing. A third report is from Dr. Caroline E. Hastings of the Talitha Cumi Home of Boston:

1. Number of maternity patients treated last year, 73, all primiparæ.
2. Number of patients having puerperal fever, none.
3. Number of instrumental deliveries, 4.
4. Number of patients recovered, 73 (or 100 per cent.).
5. Number of deaths, none.

This report is simply perfect and reflects great credit upon the managers of this home.

These three reports aggregate 170 cases with absolutely perfect results.

The Brooklyn Homœopathic Maternity reports for 1898:

1. Number of maternity patients, 131.
2. Number of cases of puerperal fever, 2, both recovering.
3. Number of deaths from all causes, 1.

This is a mortality percentage of 76-100 of one per cent. As is

well known, a large number of the cases turned over to Maternity Hospitals in our large cities for treatment are in the worst possible condition as to dangers arising from auto-infection and weakened powers of resistance, and hence the one death and the two cases of infection in this hospital can undoubtedly be satisfactorily accounted for.

Finally, the Relation of Homœopathy to Obstetrics, practically speaking, is not to substitute anything for its science and art, but to add to its achievements by scientific and surpassing medication.

The ideal Homœopathic obstetrician has the knowledge of the most erudite, the science and art of the most accomplished, the confidence of experience plus an unfaltering trust in a system of medicine that meets all emergencies with masterly precision.

REPORT

OF THE

SECTION IN CLINICAL MEDICINE.

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Prevention and General Treatment of Pulmonary Tuberculosis.

BY CH. GATCHELL, M.D.

Introductory.—Pulmonary tuberculosis is the most curable of all chronic diseases. This statement may be carried even farther, and it may confidently be said that death from pulmonary tuberculosis, *per se,* is unknown. Essentially it never occurs. Deaths so credited are due to septicemia from secondary streptococcus infection.

The post-mortem table—that court of last resort in matters medical—reveals the fact that there is evidence of healed tubercular lesions in the lungs of fully one-third of all subjects.[1]

[1]West puts the proportion as high as (60 per cent.) sixty per cent.

Fully eighty per cent. of all cases of incipient pulmonary tuberculosis are curable. This can be stated of no other chronic disease. Bright's disease, diabetes, asthma, rheumatic arthritis, tabes spinalis, essential anemia—no other chronic affection presents such favorable prognosis as is offered by pulmonary tuberculosis.

A statement of these facts, taken in connection with the additional fact that one-seventh of all deaths are due to streptococcus infection, of which pulmonary tuberculosis is the primary condition, renders the subject of the prevention of tuberculosis the most momentous and the most pregnant that to-day engages the attention of mankind.

And yet it seems but yesterday that the world of medicine awakened to a full realization of this fact. Now, congresses for its consideration are held at frequent intervals, and the subject is being agitated by the peoples of all civilized countries.

Destruction of Bacillus-bearing Sputum.—Of proposed preventive measures, one which to-day occupies a large share of attention is the destruction of the matter expectorated by the patient, containing the specific bacillus.

While personal cleanliness and common decency would dictate that all such matter coming from the lungs, or any other part of the body of a diseased person, should be destroyed, yet it is possible to exaggerate its importance as a preventive measure. Infection by the bacillus tuberculosis takes place only in the case of those with imparied constitution and lowered equation of resistance.

The History of Brompton Hospital for Consumptives, extending over a period of thirty-seven years, shows that those who live in constant association with such patients are not especially liable to become infected. Many other facts of like character could be cited.

In order for infection to occur, the constitution of the infected subject must first become impaired.

And yet, notwithstanding this fact, it is well enough to destroy all bacillus-bearing matter, in order to lessen the number of foci of infection.

The methods of accomplishing this are simple, and so familiar to all that I need not go into detail. Suffice it to say that all expectorated matter should be received in some disinfectant solution, and at once destroyed.

The fine spray coming from the lungs of the patient when coughing is even more actively infectious than is dried sputum. This fact would teach that the mouth should always be covered by a handkerchief when in the act of coughing. But to require the patient to

wear a mask for this purpose—as recommended by some—is, I think, carrying the matter to a degree of refinement bordering upon the sensational.

By these remarks I would not be understood as discouraging the destruction of the bacillus-bearing matter that comes from the patient. This should be done. The bacillus tuberculosis is not ubiquitous, excepting as persons suffering from the disease may be so. In the absence of culture and regeneration in the animal body, the bacillus perishes. It has no spores to remain dormant for an indefinite period. In sputum subjected to sunlight, the bacilli are quickly destroyed. In matter subjected to putrefaction, all bacilli are destroyed in from six to seven weeks. In desiccated matter, not subjected to sunlight, destruction takes places in from six to ten months.

Hence it may be said that any district or locality, once free from the presence of animals—man or the lower—infected with tuberculosis, and in which there is no new importation for a period of one year, is then free from the presence of the bacillus tuberculosis.

This indicates the place occupied by the destruction of the sputum as a prophylactic measure, but it must always be considered in connection with the part borne by the constitution of the individual.

The Patient.—All considerations of the prevention of pulmonary tuberculosis must, in the last analysis, deal with the constitution of the individual.

After all has been said of the infective agent—the specific bacillus—it would be a harmless guest in the lungs but for that peculiarity of the host which we are in the habit of calling "susceptibility," but which, for purposes of this discussion, I shall refer to as *low equation of resistance.*

It can be stated, without dispute, that no human being goes through life without repeatedly harboring in his lungs myriads of tubercle bacilli. But being received on the pulmonary mucous membrane of one who has a high equation of resistance (commonly called "inhospitable soil"), they find no culture-medium, and at once perish. This takes place in about two-thirds of all members of the human race.

In still other subjects, at some time, owing to a temporarily lowered equation of resistance, the bacilli which enter the lungs find a favorable culture-medium, and the usual changes take place. But, before the process is far advanced, and before secondary infection occurs, the tubercular mass undergoes fibroid or calcareous degeneration, and recovery follows. At the end of life, with death from

some other cause, these signs of former lesions are discovered. one-third of the members of the human race are thus affected.

In still other cases the primary invasion is soon followed by secondary streptococcus infection, extensive destruction of lung tissue, septicemia, and the usual fatal result.

About one-seventh[1] of the race succumb to this disease process.

Therefore, in accordance with this account, with reference to the susceptibility to invasion and infection of the lungs by the bacillus tuberculosis, the members of the human race may be divided into three classes:

1. Those whose equation of resistance is permanently maintained so high that the bacillus tuberculosis at once perishes when lodged on the pulmonary mucous membrane. Proportion—*About* two-thirds.

2. Those whose equation of resistance is temporarily lowered, so that infection by the bacillus tuberculosis at some time occurs, but permanent recovery follows. Proportion—*About* one-third.

3. Those whose equation of resistance is permanently lowered, so that the bacillus tuberculosis finds in the tissues of the lungs a favorable culture-medium, on lodgment the formation of colonies takes place, tubercles form, there is solution of continuity of lung tissue, secondary streptococcus infection, and as a result of septicemia due to this state of mixed infection, the patient dies. Proportion—*About* one-seventh.

It is in this third class that our efforts at prevention must be applied and exerted.

Those in Class 1 are removed from our present consideration, because they are never affected.

Those in Class 2, call for little consideration, for in most instances the disease passes unsuspected and undetected. In others, cure is easily effected.

Hence, it is among the members of Class 3 that our victories must be achieved.

Let us for a moment consider the characteristics of these three classes.

Class 1 comprises the ordinary healthy individual, with full lung power, according to stature and weight, with good digestion, unimpaired nutrition, and firm of fiber. They have a high equation of resistance.

Class 2 comprises those who possess the qualities of the members

[1]The fractions used—2-3, 1-3, 1-7—are, of course, impossible, but the saving clause is found in the qualifying adjective "about."

of Class 1, but in less degree, so that, owing to temporarily acting influences, their equation of resistance for a time becomes lowered, but again returns to the point of safety.

Class 3 comprises those whose equation of resistance is so low that, once infected, the disease-process is rapid, secondary infection is early, and a fatal result almost invariably occurs.

This class I would designate as being the "submerged seventh" of the human race. As the lower animals neglect the sick and helpless of their kind, as savage tribes destroy the infirm, the crippled and the deformed, so the *bacillus tuberculosis* is the great exterminator of the weaklings of our race. It destroys more than war, pestilence and famine. And yet it seems to be but yesterday that the medical profession awakened to the fact that our science has it in its power to overcome this destroyer, and rescue from its onslaughts the "submerged seventh" of mankind.

Class 3, the "submerged seventh," comprises those whose "vital capacity," according to Hutchinson's tables, is below the standard that should be possessed by the individual. Also, those whose "corpulence" as described in Dr. Goodno's very instructive paper, to which we have just listened, is below the standard of 26. There is, in these subjects, want of full powers of digestion, and a soft "fiber," as related to the quality of the tissues.

Bodily figure and conformity of chest are significant in diagnosis, but they bear no *primary* relation to etiology. The patient does not contract pulmonary tuberculosis because the chest is thin and narrow; he has a thin and narrow chest because of the nutritive defect in the tissue-cells of the entire body which forbid the development of a full and rounded chest.

Hence, in the last analysis, the disease is one of defective nutrition of the tissue-cells. If physiological chemistry had penetrated so far, it would show it to be in the cell-nucleus, that part richest in iron and phosphorus, that part the function of which is to take from the blood the elements to be synchronised into formed matter. Hence it is that in the prophylaxis of this disease, questions of food and digestion are given like distinction to those of air and breathing. Upon the integrity of the digestive process depends the proper supply of serum-albumin, serum-globulin, and fibrinogen; upon the integrity of the respiratory process depends the proper supply of hemoglobin, all of which are essential to perfect nutrition.

Hence, all treatment of this disease, including the attention given to the lungs, is not for the purpose of dislodging the bacillus. This cannot be done. It is in order to improve the nutrition of the tissue-

cells of the entire body, including those of the lungs, so that their equation of resistance shall be raised, that the bacillus may perish.

In homely phrase, it is to create an "inhospitable" soil; it is to replace the culture-medium upon which the bacillus is flourishing by one having such equation of resistance that it perishes.

The so-called "phthisical" subject, the one who is supposed to be "predisposed," or "susceptible," or, as I would put it, with *low equation of resistance,* has always been deseribed as being of leucophlegmatic temperament, of long and narrow chest, of fair skin, with prominent blue veins. But there are a great many victims among the "submerged seventh" who do not correspond to this type. Those who, in previous good health, become tuberculous following attacks of measles, of whooping-cough, of epidemic influenza, and like affections, do not all conform to the type. Nor do those in whom tuberculosis is the terminal event of Bright's, diabetes, and other chronic diseases.

Pulmonary tuberculosis is not a disease of the lungs. It is a constitutional disease—a diathetic disease—in which the lungs are the primary organs affected, because they are constantly exposed to the invasion of the air-laden specific bacillus.

In this connection I would pause for a moment to remind you that the medicinal agents which we find most useful in the disease—calcarea, kali carbonica, phosphorus, iodine, sulphur, and the like—are such as have a special action on cell nutrition.

Equation of Resistance.—By the term "equation of resistance" I mean what is commonly referred to as "susceptibility," which, I think, fails to convey the full meaning intended to be expressed. Therefore, for purposes of convenience, I would introduce this new term.

Let us suppose that in those persons who go through life and are never affected with tuberculosis, the first term of the equation of resistance is 100, or maintained near 100.

In those who at some time in their lives become affected, but make recovery, the first term of the equation is in the neighborhood of 50. If the equation of resistance falls temporarily to 49, or below, the ever-present bacillus at once begins to generate, the tissues yield, tubercles are formed, and the disease-process is initiated. But, owing to inherent powers, or the changed influences of environment, the question of resistance is again raised to 51 or higher, and recovery follows.

In still others, the first term of the equation of resistance is permanently below 50. According to the rapidity with which the

disease-process progresses, it may be expressed as being 40, 30, 20, or, in the victims of acute pneumonic phthisis, it may be placed at zero (0).

It it needless to say that this is purely arbitrary and artificial. I introduce it solely for the purpose of convenience of expression, in order to promote a mutual understanding in the use of the term "equation of resistance."

Heredity.—That pulmonary tuberculosis is not an inherited malady is in accordance with prevailing doctrines. In Heubner's clinic (Berlin) of 800 infants, not one was found to be tuberculous. Virchow says that there is no well-authenticated case of hereditary transmission. Pfeiffer (Berlin) says that in all cases of supposed congenital tuberculosis there has been found tuberculosis of the genital organs of the mother.

We may, therefore, accept it as an established fact that tuberculosis is not transmitted from parent to offspring.

But the story does not end here. We know that the tuberculous may and do endow their offspring with a defective constitution having a low equation of resistance. This is what is inherited. This is the legacy transmitted from parent to child. The actual infection may take place in the hour of birth, or thirty years later, but the mark of the bacillus is there.

But there is still another lesson for us. Offspring with low equation of resistance to tuberculosis do not come alone from parents who are themselves tuberculosis. The progeny of the aged, the progeny of the syphilitic, and of others having impaired constitutions at the time of begetting and bearing offspring, are equally prone to become tuberculous as are those who come of strictly tuberculous parentage. What is transmitted in all cases is an impaired constitution—the constitution with a low equation of resistance.

Therefore, the prevention of pulmonary tuberculosis, as related to the subject of hereditary, must have to do with the parent. In application it demands that those who are tuberculous must not marry; or, if already married, they must remain childless.

This is the problem presented to us. How shall we meet it? The state can render no aid. The law cannot interfere to prevent marriage between those of sound mind, whatever the state of the body may be. Such interference is an invasion of private rights which the citizen would not tolerate. It is a power not granted to governments.

Therefore, upon the medical profession is thrown the responsibility for the application of this important preventive measure.

In order to accomplish this, the members of the medical profession, in a systematic manner, and by united effort, must institute and carry out a propaganda of education on the subject. In this way there must be created an intelligent public sentiment which shall result in the prevention of marriage between those who are tuberculous, or others whose progeny would inherit a low equation of resistance.

This method, it seems to me, offers the only solution to this part of our problem. In carrying it out, there should be prepared appropriate literature, setting forth the subject in clear and convincing style. This matter should be universally disseminated. This is a field in which the public press may legitimately be called upon to aid. The end and aim of this propaganda of education should be to bear home to the minds of the people of the entire world the fact that consumptives cannot safely marry; that a violation of this hygienic law will visit a dire disease upon the first generation—and there will be no third or fourth.

So far as my vision penetrates, the method that I have here outlined is the only one which will accomplish this part of our purpose—the prevention of pulmonary tuberculosis by hereditary transmission of an impaired constitution, with low equation of resistance.

Antitoxin Prophylaxis.—At this juncture I would mention the subject of antitoxin prophylaxis only to dismiss it. Koch's tuberculin has no such power, and, moreover, no serum ever will have, for the reason that tuberculosis is not a disease in which one attack grants immunity. One may suffer from any number of attacks of tuberculosis. There is no such thing as immunity from this disease, All are liable. Freedom from its attacks is only a question of greater or less equation of resistance.

Alimentation.—Pulmonary tuberculosis is a diathetic disease. In the last analysis, the defect is in the nutritive processes of the tissue-cells.

It is this fact that gives to the subject of diet its great importance. The patient who can ingest, digest, and assimilate the greatest quantity of nutritious food, is the one who will make most rapid progress towards recovery. Gain in weight, or loss of weight, are the most reliable indices of improvement or of failure.

In this disease, when there is present severe gastric disturbance, there are no lesions of the stomach, not even a gastro-enteric catarrh. On post-mortem the mucous membrane is found to be in a perfectly normal condition, notwithstanding the many symptoms of

dyspepsia present during life. The gastric irritation is due to the presence of toxins in the blood. Anorexia is secondary to this.

Therefore, having a stomach not organically affected, it is possible to treat the patient by

Forced Feeding.—Regardless of the anorexia, the patient should, so to speak, be "stuffed." He should be made to take as large a quantity of nutritious food as he can possibly dispose of.

But this measure should be intelligently carried out, else one's zeal will defeat one's efforts.

The diet should consist of food containing a large proportion of nutritive material. Especially should it be rich in fats. These should be in the form of butter, cream, and milk (unskimmed). For those who can take it, a diet made up largely of milk should be given. Red meats—especially beef and mutton—should be freely taken. The diet should have a due proportion of fruits and vegetables, to supply the starches and phosphates. Concentrated foods should not be too much relied upon. Like Private Mulvaney, what the patient wants is "bulk on his insides."

But in giving this diet, its intelligent administration is of the utmost importance.

The stomach must never be overloaded. A practical method is to give six meals a day, after the manner recommended by Dr. R. W. Wilcox[1] of New York. This method, in detail, is as follows: If the patient suffers from night-sweats, let him be awakened at four o'clock in the morning, or at whatever hour the sweat is apt to occur, and be given a glass of warm milk. At seven o'clock the patient receives another glass of milk. At nine o'clock, breakfast, with a wholesome variety of nutritious food. At eleven o'clock, a light luncheon. At one o'clock, a liberal dinner. At five o'clock a light tea. At seven o'clock supper, and at bedtime a glass of warm milk.

Some such method as this, varied to suit the requirements of each case, will fulfil the conditions and accomplish results which are but partially attained by artificial foods, or by stomach-tube feeding, after the method of Dujardin-Beaumetz.

In pulmonary tuberculosis the matter of diet is second only in importance to fresh air. Without fresh air, the forced feeding will not only fail to accomplish desired results, but it will pall upon the patient, and defeat its own purpose. With fresh air, the appetite will spontaneously improve, and the increased amount of food will be demanded.

Open Air.—Since Brehmer first exploited the open-air method

[1] *Medical News*, May 7, 1898.

of the treatment of phthisis, this measure has never been given so great prominence as at the present time. The wonder is that it has been so slow in obtaining universal adoption. The facts in its support are so self-evident that they call for no argument in the presence of this body of physicians. It remains only to state that there is nothing that will take the place of the open-air method, and that in importance it overshadows all others.

This method means that the patient shall live in the open-air twenty-four hours in the twenty-four. When impossible to do this, then as many hours as may be.

The manner of accomplishing this is the question for present consideration.

If the patient can be sent to a sanitarium in some favorable location, where he will enjoy the benefits of the Nordrach system, the problem is solved. But, for financial reasons, all cannot do this. It may be here stated that no person who has an abundance of money and sense enough to act upon a physician's advice, need suffer long from tuberculosis. All can be cured. In all cases the cure of tuberculosis is a question of dollars and cents.[1]

On this basis persons suffering from pulmonary tuberculosis, with reference to prognosis, may be divided into three classes.

I. *Favorable prognosis*—those with an abundance of money.

II. *Doubtful prognosis*—those of moderate means.

III. *Fatal prognosis*—those in poverty.

The first class—the wealthy—we need not consider. Under the advice of a wise physician, recovery should take place in every case.

The third class—the poor—if they are to be made well, must be cared for by the State. And this should be done, not as a humanitarian measure, for the benefit of the individual sufferer, but as a sanitary measure, to protect the community from a communicable disease.

It remains then to consider the great middle-class, who must be treated at home. In New York State last year (1898) 12,000 died of phthisis. How many of these ever left their homes?

The open-air treatment must be instituted as a domestic measure.

In densely populated centers this must be accomplished by setting apart for the patient a large, light, airy upper room, with carpets and upholstery removed, and the sash taken from the windows, the openings being at times protected by canvas screens. This should be the patient's sleeping-room, summer and winter. Even in the cold of winter, let the windows remain open. Warmth to the body must be

[1]This statement refers to *tuberculosis* not to advanced *streptococcus septicemia.*

preserved by sufficient bed-clothing, but outside air, even though of zero temperature, must be used for purposes of respiration.

Physicians would do well to combat the ancient superstitition about the injurious qualities of "night air." At night, what other kind of air is there?

In sparsely settled communitites, where the surroundings permit, from early spring to late fall, the patient should sleep at night in a tent. The tent may be pitched on any convenient, dry, well-drained, grassy plot, near the patient's abode.

In connection with a consideration of the open-air treatment, the subject would be incomplete without mention of the benefit to be derived from the use of the bicycle. I look upon this as being one of the most valuable adjuncts to the prevention and treatment of this disease that has ever been devised. It is far superior to "health-lifts," and all other mechanical contrivances. With wide and high handle-bars there need be no contraction of the chest. In fact, the contrary effect is produced, for the slight exertion is followed by an increased demand for oxygen which compels chest expansion. The only precaution necessary is moderation; stop short of getting tired.

I recommend the use of the wheel to all my patients with pulmonary tuberculosis. It is the greatest of all open-air cures.

But for those who can leave their homes, the modern open-air sanitarium, where the patient receives all the benefit of the Nordrach system, is the best. It is better than the home treatment, and cure takes place in shorter time, because the patient "makes a business" of getting well, which, in this fickle disease, so full of false promises to the patient's easily simulated hope, he is apt to neglect. Moreover, at a sanitarium the patient is constantly under the watchful care of the physician. This is important, for there is no more irresponsible patient than one suffering from pulmonary tuberculosis.

Lung Development.—Of all single measures connected with the prophylaxis of pulmonary tuberculosis, lung development is the most important, for the chances of acquiring the disease are in inverse ratio to the vital capacity and the pulmonary integrity of the individual.

This fact has become one of the accepted doctrines in medicine since it was so ably set forth by Jonathan Hutchinson in 1846.

Lung development gains its importance for two reasons. One is that a properly developed lung, possessing its full vital capacity, penetrated by air in all its parts, to its utmost recesses, has no unused portions, no atelectatic areas, where the bacilli may rest undisturbed,

without contact with air, under favorable conditions for development and growth.

It has been shown by Abrams that in tranquil breathing there are small zones of collapsed lung which are revealed by fluoroscopic examination. Their location is indicated by slight haziness, or shadow. The shadow disappears on forced inspiration. These atelectatic zones are most common in the apices, the traditional seat of tuberculosis.

Of all the organs of the body connected with animal life, the lungs are the only ones which, by habit, may be functionally active in part, while other parts are inactive. The stomach, the liver, the kidneys, the heart, are always functionally active in all their parts. No one portion is at times unused while the rest is active. Not so with the lungs. In tranquil breathing, as in those of sedentary life, considerable areas may be habitually thrown out of action.

This is for the reason that the lungs, unlike the other organs named, are in part under the control of volition. It is this fact, in great measure, that gives to lung development its importance. This vital organ, whose function, in part, is subject to volition, must, by volition, have its functional activity developed to the utmost.

But connected with the subject of lung development, there is still another consideration of no less importance. Pulmonary tuberculosis, in its last analysis, is not a lung disease. For reasons in the nature of accident, the lungs become the primary focus of invasion. But the disease is due to a constitutional state, intimately associated with the nutrition of the ultimate cell, not alone of the lungs, but of the entire body. The low equation of resistance is not of the lungs alone, but of the cells composing all the tissues of the body. Prophylaxis demands that the nutritive condition of the cells be raised. In order that this may be done, not only must the cells be supplied with an abundance of nutritive material as a result of stomach and intestinal digestion, but, what is of equal importance in the nutritive process, there must also be an abundant supply of oxygen. In accordance with a well-known law of physiology, the greater the lung capacity, the greater the volume of air coming into contact with the lining membrane of the pulmonary alveoli, the greater will be the number of oxygen-carriers in the blood, and hence, the greater the quantity of hemoglobin to take part in the nutritive processes belonging to the tissue cells of the entire system, in order that their equation of resistance may be raised.

It is this consideration, equally with the previous one mentioned,

that renders lung development in the prophylaxis of pulmonary tuberculosis of such extreme importance.

The details of the process do not belong to the subject-matter of this paper, my present object being to assign to lung development its relative place among prophylactic measures.

I will only emphasize a few important conditions.

Not only the chest, but the entire body, must be free and untrammeled by tight clothing. Above all else, this means that in the female, corsets must be discarded. In any event, tightly laced corsets are woman-killers, but more especially is this true in the case of those who are predisposed to pulmonary tuberculosis. They do much to embarrass respiration, and so not only favor the lodgment of the bacillus, but also to lower the equation of resistance by decreasin g the amount of hemoglobin.

The prescribed exercises should be gone through with, systematically, many times daily, always in the open air, or before an open window.

As a measure of prophylaxis, lung development is at all times of first importance. But it should be begun in early life—in childhood, when the elasticity of the ribs, cartilages and sternum are the greatest, and when the thoracic cage is most capable of expansion.

To this end, all children—not alone those with low equation of resistance—but every child that comes into this world, at the earliest possible age, should receive systematic training in deep breathing, to promote lung development, and chest expansion. By this measure, more than by any other single one, can the entire race be best fortified against the results of the great exterminator.

In order that this may be done, such exercises as I have indicated should be introduced as a part of the regimen in the public schools of the entire country. This is a legitimate function of the State. In my opinion, the American Institute of Homœopathy cannot do better than to take the initiative in bringing about this reform.

If this were done, in two generations every person living would breathe with a pair of fully developed lungs, and the object of our present deliberations—the prevention of pulmonary tuberculosis—would be in great measure accomplished.

The methods of lung gymnastics are various, and all possess merit. Naturally, I give preference to that which did so much for me when, more than twenty-five years ago, I was myself a victim of pulmonary tuberculosis.

My method consisted of regular and systematic exercise, having for its object the permanent expansion of the chest, and increase of

the vital capacity of the lungs. This I accomplished by developing and using all the voluntary and involuntary muscles of respiration, including the abdominal muscles, the diaphragm, the pectoral and costal, and the muscles of the neck. This method involves exercises which shall induce and make habitual abdominal, as distinct from costal, breathing.

These exercises I continued for twenty years following the period of two years during which recovery from the pulmonary lesion was taking place.

This should be done in all cases. Never stop the lung exercises.

The Nasopharynx.—A discussion of preventive measures as related to pulmonary tuberculosis would be incomplete without reference to the important part occupied by the nasopharynx. First, if the nasopharynx is in an unhealthy state, it becomes the avenue of entrance for the specific bacillus. It is through lesions in the mucous membranes of these parts that entrance is gained by the bacilli which, by the medium of the lymphatics, find their way to the bronchial lymph-nodes which later break down and infect the lungs. Not alone may primary infection by the bacillus tuberculosis be introduced in this manner, but according to Pfeiffer (Berlin) in secondary infection the avenue of entrance of the streptococcus is through the nose.

The other consideration having to do with the nasopharynx, is that it is a part of the respiratory apparatus, and, as nasal breathing is the proper physiological method, the nasal passages must be free and unobstructed.

The two facts stated convey the lesson that preventive measures in pulmonary tuberculosis involve, among other things, a healthy state of the nasopharyngeal mucous membranes, with nasal passages free and unobstructed.

Bathing.—In the prevention of pulmonary tuberculosis, for two reasons, the skin must receive attention. By proper bathing it must be kept up to its highest state of functional activity, since it is an important emunctory of the body, and also because in the elimination of CO_2 and the absorption of O, it is capable of performing one-thirtieth part of the respiratory process.

But there is another consideration. The morning cold sponge-bath to the chest is as important and salutary a measure to-day as it was fifty years ago, when first recommended by Priessnitz.

Moccucci,[1] by a series of interesting experiments, has demonstrated that any irritant applied to the skin of the chest at once pro-

[1] *Riforma Med.*, 1898.

duces acute dilation of the lungs. This lung reflex Moccucci produced by a spray of ether applied to the surface of the skin of the chest. But I have demonstrated that cold water has an effect equally as marked as that produced by the ether spray. At once upon its application percussion reveals the fact that the borders of the lungs become extended in all directions. So marked is this action that the spleen-dulness may be entirely obliterated by the temporary expansion of the lungs, and the dulness belonging to the cardiac area, as well as that of the liver, may be very much reduced.

Hence, cold bathing to the chest not only helps to give "tone" to the skin, but, by reflex, it also produces lung expansion.

Therefore, the cold sponge-bath to the chest, preferably taken each morning, must be made one of the measures to be adopted in the prophylaxis and the general treatment of pulmonary tuberculosis.

Drainage.—The dwelling-place of the person predisposed to pulmonary tuberculosis should be on a sandy, well drained soil, with no clay or rock subsoil. The ill effect of dampness of soil in so affecting the constitution of the individual as to bring about low equation of resistance to infection by the bacillus has been recognized ever since it was first insisted upon by Bowditch in 1853.

Massage.—As another measure to be taken advantage of in this disease, massage and manipulation of the muscles of the chest are valuable aids. Especially is this measure of great benefit in those cases in which there is already wasting of these muscles. In such cases, not only massage, but also passive exercise of the arms, in a manner to induce chest expansion, will do much for the patient.

Sunshine.—The important part taken by this great life-giver, sunshine, is another fact recognized by all. Hence, it calls for no extended discussion. So far as possible, the patient should live in the sunshine. Not only when out-doors, but a solarium should be arranged so that sun-baths may be given and the surface of the entire body exposed to the direct rays of the sun. This is a valuable measure, to be used in connection with the others.

Conclusion.—In this discussion I have endeavored to indicate the nature of the disease under consideration, in order properly to estimate the true relation of preventive measures. I have endeavored to show that pulmonary tuberculosis is a constitutional disease, due to impaired nutrition, intimately associated with the functions of the nucleus of the tissue-cells; that this nutritive defect in the individual lowers the equation of resistance to infection by the bacillus tuberculosis. The lungs become the primary focus of infection, because their exposed position and physiological function render them most

freely accessible to invasion by the specific bacillus.

Finally, I would submit: The leading topic of this paper is the *prevention* of pulmonary tuberculosis. A survey of what has been said indicates that the prevention of this disease means proper food and proper eating; proper air and proper breathing; proper cleanliness and proper bathing; proper clothing; proper dwellings; proper sunlight, and proper parents.

In a word, it means everything that will promote the health and well-being of the individual. To the accomplishment of this must be brought all the resources of hygiene and sanitation known to medical science.

This is the task assigned us. It is a tremendous one. Its execution embraces the regeneration of the race. It involves the rescue from destruction of the submerged seventh of mankind.

Discussion.

Jos. T. Cook, M.D.: It is truly marvelous, considering the fact that so large a percentage of cases of this disease is curable, to observe the apathy shown, even in the medical profession, in regard to plain, practical efforts for its prevention.

Surely, it is an encouraging sign of the times when a scourge that takes off one-seventh of all who die of disease yearly, is beginning to bring together international congresses for its study.

As to the general points taken by the writer of the paper I will heartily concur—such, for instance, as the destruction of the bacillus-bearing sputum, the equation of resistance, alimentation, sunshine, and use of the bicycle.

Under the heads of heredity and lung development, it is very true that, as physicians, a heavy burden of moral responsibility rests on us. We can do much, if we will, to discourage marriage between persons whose offspring must die of the disease, and we can do even more by giving greater attention among children in families where we attend, to the persistent use of methods in schools and out of schools for general and of chest development.

Need of Physical Development in Schools.—The more promptly school teachers and school boards realize their obligation to pay equal attention to the development of the body and of the mind the greater will be the evidence that the schools are fulfilling their highest possibilities to their pupils.

Very much has been accomplished in these lines in the last decade, but if the medical advisers of the people will do their duty more fully, still greater results can be accomplished in the next ten years.

Open-Air Treatment.—It certainly is true that this is the most essential of all the points presented in Dr. Gatchell's paper, and its consideration leads directly to the practical one which I wish especially to consider, and that is, how the average patient can best obtain this method of cure—fresh air.

Those who have given the subject the most thoughtful study agree that *sanitarium treatment* is far superior, in its results, to home life in incipient cases.

According to the experience of Dr. E. L. Trudeau, whose Cottage Sanitarium in the Adirondack forest in New York State, has won him deserved fame, 50 per cent. of incipient cases recover with proper sanitarium care, while 86 per cent are improved, as against 58 per cent. which improve in the same climate in boarding and farmhouses outside of a sanitarium.

The Rich and the Poor.—Dr. Gatchell, in his paper, wisely states that in these discussions the rich need not be especially considered, it is then only necessary to ask, how shall the other two classes he refers to, *viz.:* those of moderate means, and those in poverty, be cared for.

Two elements of course appear, the interests of the individual, and the control or prevention of disease.

Duty of the State.—My effort will be to show that it is the duty of the State to come forward at this juncture, acknowledge its responsibility and assume its duty in taking up the care of those incipient cases occurring in persons of moderate means, or no means at all, and wiser still, in accepting the charge of the control of the spread of the disease.

State Control and State Care.—State control of prevention and state care of incipient tuberculosis patients is the one opening through which, it seems to me, a light may soon dawn on the dark pages being written by the ravages of tuberculosis.

This idea of State care is not a new one. All over our land the principle of State care for the insane has been accepted and acted upon, and, as all know, with wonderful results.

Think how few years have elapsed since the crude almost inhuman methods of county insane asylums have gradually given place to the intelligent care of this class of unfortunates by the State, in hospitals where the "hospital idea" has made possible recoveries never before dreamed of.

Sanitariums for Incipient Cases.—It being accepted by experience that sanitariums for the care of recent phthisical subjects will also make possible for them recoveries in ten-fold greater proportions than for the insane, why should State care be withheld from that class who have not the funds to provide themselves those surroundings? Is it not better for the State to expend this money for the care of these cases than to have them pass to a stage of incurability, when vast numbers of them must become a burden on the City, County or State, only to remain so until death releases them.

Dr. John H. Pryor's Paper.—In a most interesting paper on this subject, read before the Medical Society of the State of New York, in January, 1899, and published in the *Medical News* (New York) Feb. 18, 1899, Dr. John H. Pryor, of Buffalo, N. Y., makes these pertinent remarks:

"The public should demand the same immunity from tuberculosis as it receives from other infectious diseases. Emotional ob-

jections in favor of concealment, fatal delay and selfish interests should be swept aside. . . .

"The greatest known menace to public health holds its awful sway unchecked simply because well known and efficient methods are not employed to combat it. The blame rests with the medical profession.

"The consumptive should be cared for until he is well, not until he is dead. . . . .

"There are many reasons why the State should assume the care of the incipient consumptive and the objections to such action are easily answered.

"1. The proper location for institutions to care for the early consumptive cannot be found except in certain regions more or less removed from the center of population.

"2. The crusade against tuberculosis and the treatment of curable cases can only be undertaken by the State because of expense and the necessity for avoiding multiplicity of institutions and the consequent increase of officers and salaries. . . . .

"3. The new proposition of State aid for the sick, is supported by the facts springing from a unique modern social evil.

"4. The consumptive requires special treatment in a locality known to be beneficial. No other treatment promises anything.

"5. No other class of victims needs this help, which only the State can provide."

State Care Already Established.—This principle of State care and State control of prevention is already established in the States of Michigan and Massachusetts, and a bill was introduced last winter in the New York Legislature, through the efforts of Dr. Pryor, for an appropriation of $200,000 for the establishment of a State sanitarium in the Adirondacks. It failed through urgency of arguments for economy, but will no doubt be passed within the next year.

The United States Marine Hospital Service, which cares for sailors from all parts of the seacoast and inland waters, is already erecting a sanitarium in New Mexico.

Before Congress.—In Congress the subject has been seriously brought forward through the efforts of Senator Gallinger, of New Hampshire, and much progress has been made toward molding public opinion in Congress and out of it in the directions outlined.

In New York State.—In New York State the Legislature recently passed a bill, which has been signed by Governor Roosevelt, allowing the cities of New York, Brooklyn, and Buffalo to build sanitariums for tuberculosis patients anywhere in the State outside of the limits of cities. As a result of this it is now stated that the Board of Health of the City of New York has this matter under serious consideration.

Private Instructions.—Philanthropy and industrial ambition have combined, in various proportions of course, for the establishment of at least two institutions in New York State under allopathic control, one in the Adirondacks and the other in Sullivan County, at Liberty. At the latter point is also one under Homœopathic control.

Recently a move has been observed to erect a large Sanitarium,

as a private enterprise, at Rutland, Massachusetts, near the one conducted by that State. This new venture will involve an expenditure of several hundred thousand dollars.

Massachusetts' State Sanitarium.—The Sanitarium conducted by the State of Massachusetts may be taken as a fair model of what we may hope to see ere long in every State in the Union. It has accommodations for 200 patients, each of whom pays 50 cents per day, which about covers the cost of food consumed; the balance of the expense of course falls on the State. If unable to pay anything, the city from which the patient comes is expected to foot the bill.

An examining physician from one or the other school of medicine passes upon the acceptability of the applicants for admission, and the patient has the choice of which school of medicine will have charge of him.

A recent medical journal has very tersely summed up the arguments in relation to the economic view of State care for incipient cases of tuberculosis, as follows:

"When the worthy but poor consumptive is taken in time to an institution where his chances of recovery are still good, he will have little chance to infect the other members of the family and he is likely to return after a relatively short sojourn, restored to health and hygienically educated, ready to become again a breadwinner and a supporter of his family."

Now the maintenance of this patient in a municipal (or State) sanitarium for from three to six months or longer, during the earlier stages of the disease, will cost the commonwealth no more than if he had been taken to a general hospital for perhaps the same period of time, but in a much farther advanced and more hopeless state of his disease.

If the family were absolutely destitute, the members would have to be supported by the municipality, whether the head of the family were in a sanitarium or general hospital.

But since when treated in time and in a special institution, he has 25 to 35 more chances of getting well, the likelihood of the community being obliged to support a widow and several orphans has thus also been reduced by nearly "one-third."

In Foreign Countries.—Public sanitariums more or less after the style of the one in Massachusetts have been established in France, England and Germany, and in the latter country number no less than 30, most of them being under municipal control.

All This Applies to Recent Cases Only.—In all this discussion, reference is had only to the care of incipient cases.

It is understood that advanced cases must be isolated as best they can be at home, or be maintained in special hospitals conducted for these partients only, by city and county authorities.

If, however, State and to a certain extent municipal care of the cases were the general rule, as undoubtedly ere long it will be, then the cases that would be in need of care in the city and county hospitals for incurables would become fewer and fewer.

Dr. Gatchell has truly stated in his paper that for incipient cases there is nothing that will take the place of the open-air treatment, as

given in sanitariums, and that the poor and those in moderate means. if they are to be made well, must be cared for by the State, both as a benefit to the individual and as a protection to the community.

In elaboration of these truths I have endeavored to outline what progress has been made with the application of the principle of State care and State prevention and would only further mention that, at the meeting of the American Medical Association held in Columbus, Ohio, two weeks ago, a resolution was adopted calling for the appointment of a committee of five to consider the best means of treating tuberculosis and preventing its dissemination, and to report to the United States Congress and to the various State Legislatures, urging upon them the adoption of appropriate measures.

A Resolution Called For.—It only remains to suggest to those in charge of this section, that as a result of these deliberations a resolution in line with that just referred to, be presented for the consideration of the Institute before its final adjournment.

Aids to the Early Diagnosis of Pulmonary Tuberculosis.

By Wm. C. Goodno, M.D.

Since the splendid observations of Koch, resulting in 1882 in the discovery of the bacillus of tuberculosis, there has been too great a tendency to rely upon this organism as the all-sufficient factor in the diagnosis of pulmonary tuberculosis, to the unfortunate neglect of other evidences. Recognizing the full value of this micro-organism as a proof of the tuberculous nature of any lesion I hope that nothing I may say will lead any one to attribute to it less than its true value. Unfortunately, however, every case of pulmonary tuberculosis does not present us with material in which we may search for the bacillus, and in a larger number of cases exudative matter containing it is not available for examination until after physical signs have revealed the disease. While, therefore, the presence of this organism in the sputum is conclusive evidence of the tuberculous nature of a lesion of the lungs or some portion of the respiratory tract, its absence, or inability to discover it, does not exclude tuberculosis.

Admitting then the all-sufficient diagnostic importance of the bacillus tuberculosis as an evidence of the tuberculous character of a lesion, I call your attention at this time to the diagnosis of cases of early pulmonary tuberculosis in which the bacteriological test is not available. The subject is so large that time will permit of but a few features.

While most cases of pulmonary tuberculosis begin with developments of a local kind, directing attention to the lungs as the organs attacked, many are so insidious as to give rise to no local signs, or are of an ambiguous character only. Under these circumstances there are certain general conditions which may be present and confirm our suspicions. The presence of any condition known to favor tuberculous infection will suggest the nature of a suspicious pulmonary lesion or the probable cause of ill-developed physical signs.

Continental governments especially have made a determined effort to prevent enlistment of men for military service suffering from

early pulmonary tuberculosis, as well as those manifesting certain supposed evidences of a predisposition to tuberculosis. In relation to this predisposition the so-called "corpulence" of the individual is regarded as most important. The word is used in a peculiarly restricted sense, and indicates the relation of the individual's weight to his height. It is determined by dividing the weight by the height. Thus, John Smith's weight is 160 lbs., his height 5′ 10″. Reducing this to fractions and dividing we get 27.42 as his corpulence.

The European standard is 26, which is considered rather high for Americans, at least as seen in general medical practice. The standard for women is about three points less than that for men. I have personally studied the corpulence of quite a large number of persons, as I note this condition in all cases in which it may be a factor of importance. These observations agree fairly well with those which have made a reduction of two points; *i. e.*, to 21 in women and 23 in men, an indication of abnormal leanness, a condition favoring tuberculosis. Certain associations of corpulence add to its importance; indeed, I think that the key to its value is its associations. The most important of these is the "vital capacity" as determined by the spirometer, an instrument constructed, as you know, upon the principle of the gasometer. The vital capacity of an individual varies with the age, height and weight. Healthy persons of normal development are able to expire a certain number of cubic inches of air after a full forced inspiration. This furnishes a standard for comparison.

Taken in connection with the height, vital capacity becomes an aid to diagnosis of no inconsiderable value. A man of average height, say 5′ 8″, should have a vital capacity of about 225 to 230 cubic inches. If, as is common, this is reduced to 200, 180 or less, it is strongly suggestive of a susceptibility to phthisis, and in the presence of physical signs of change in the lungs, exciting a suspicion of phthisis, is of high value diagnostically.

The most important observations upon this subject have been made by the French, who have established for the normal man a relationship between height and vital capacity of 1 to 3; and for women 1 to 2.6. A short calculation is accomplished by multiplying each inch of height by 3 cubic inches of vital capacity; thus, a man 5′ 7″ high (67″) will have a vital capacity of 201 cubic inches. A reduction below this standard would be abnormal.

A further aid results from measurements of the chest circumference. The best method is to take the average of two measurements, one at the moment of complete inspiration, the other at the time

of full expiration; thus, inspiration 40"; expiration 37"—"thoracic perimeter 38½". Army surgeons have decided that the thoracic perimeter should never be less than one-half the height of the individual; thus, a man of 5′ 8"—68"—should not have a chest measurement of less than 34". If to an abnormal thoracic perimeter there is added a hollow, lean, or ill-shapen chest, it indicates a person who will yield readily to tuberculosis invasion.

The following case taken from my records illustrates the use of these various measurements. A. H., 32 years of age, height 5′ 11"; weight 112 lbs.; thoracic perimeter 34"; stooping position, hollow, flat chest; suffered for several years with a high grade "nervous dyspepsia." Examination revealed very slight bronchovesicular respiration anteriorly in the right upper lobe, below and a little within the center of the clavicle. Percussion was not appreciably altered. There was no cough, expectoration, or localized râles. Diagnosticated a possible latent tuberculous focus in the inner portion of the right upper lobe, anteriorly. This provisional diagnosis was corroborated by a corpulence of 21, a thoracic perimeter of 3 less than ½ of the height, and a vital capacity of 170, or 43 cubic inches less than normal. Upon these evidences I diagnosticated, as stated, a probable tuberculosis, which was corroborated within four months by the development of laryngeal tuberculosis, with cough and expectoration containing tubercle bacilli. There was also a development of localized râles at the point of altered respiration. There was a perfect absence of any laryngeal symptoms during the first few months.

In a search for the earliest manifestations of tuberculosis in the lungs it is a very considerable help to know that, except in the rapid pneumonic form of the disease, the extension of the lesions is according to a certain definite order unless turned aside by a disturbing element of some kind.

Due to the lower functional activity, less active circulation, greater dryness, thicker secretion, and possibly greater exposure to cold air, etc., the apices of the upper lobes are the parts usually first attacked. While we can occasionally make out changes at the apex, *i. e.*, with the stethoscope placed above the clavicle or posteriorly high in the supraspinous fossa, the first evidence of consolidation is usually found at a lower point; *viz.*, about one to two inches below the very apex (diagram). From one of these foci the consolidation extends, the tendency being backwards towards the posterior surface of the lung, probably due in great measure to the influence of the lying position, which is kept for so large a portion

of the 24 hours. There may also be an extension downwards anteriorly, parallel with the inner margin of the upper lobe, usually one-half to one inch within this border. Destructive changes set in earlier and are more extensive in the posterior extension. (Diagram.) Much less frequently the lesion begins more externally, involving the outer half of the upper portion of the upper lobe. The extension is by coalescing scattered nodules, and is downwards and forwards. If the destruction occurs in the posterior portion of the upper lobe it very rarely perforates the pleural septum between the lobes and thus extending into the lobe below.

The lower lobe of the lung primarily attacked is apt to be involved before the apical lobe of the opposite side, and frequently not only before caseation and destruction has taken place in the upper lobe, but before the lesion in the upper lobe has attained a size and development permitting it to be easily detected. This has been observed often in cases of old arrested phthisis after death has occurred from other causes. (Diagram.) The secondary involvement of the apex of the lower lobe resembles much the primary lesion in the upper lobe; *i. e.*, it may begin at the very apex, but much oftener it is one to two inches below the apex. This spot is localized by finding the fifth dorsal spine and examining between it and the inner edge of the scapula of the affected side.

It may be thought by some that it is an unnecessary pathological refinement to go into the details of the distribution of the lesions in this minute manner, but the anatomical distribution of these lesions bears strongly upon the diagnosis. Is it a small matter to know that when physical signs of doubtful import develop in the suspicious regions of the upper lobe that the appearance of similar signs in the apex of the lower lobe is almost proof of the tuberculous nature of the change? This evidence is often available before bacilli are discovered in the sputum, or before there is sputum to examine.

The middle lobe of the right lung often escapes altogether, but if attacked it is secondary to a lesion of the upper lobe and usually quite late in the course of the disease.

A primary consolidation of the base of the lung is but rarely tuberculous unless infection supervenes upon a primary lesion, such as the remains of a crupous pneumonia, pleurisy or pulmonary collapse which has impaired the nutritive condition and consequently the power of resistance.

When advancing from the apex toward the base of the lung progress is by outlying nodular consolidations having a racemose arrangement.

The lung first affected usually manifests a consolidation near the apex of its lower lobe before one appears in the opposite lung. The site may be one of those described as occurring in the apex, or it may occupy a lower position and more externally, *viz.*, in the external portion of the upper lobe just above the septum. From this focus much of the upper lobe may become involved, and it is not unusual under these circumstances for the apex proper to remain free. The physical evidences of this lesion in the early stage must be sought in the axillary region.

The lesions of pulmonary tuberculosis do not invariably follow the course of development here outlined, for we meet some unusual, even phenomenal arrangements. I lately observed a nodule develop in the left infraclavicular region, followed shortly by a focus about the center of the right lobe. There was no involvement of the apex of the lower lobe, which is rarely absent when lower lesions are present.

As pointed out, especially by Dr. Wells of Chicago, the pulse may give valuable evidence of approaching tuberculosis. Unfortunately I have not observed pulse conditions in the incipiency of tuberculous infection with sufficient care to enable me to make positive assertions upon this point. The first contention is that change of position influences but slightly the rate of the heart's beats. Normally an alteration of ten to fifteen pulsations takes place. In making this observation select a period of the day several hours after a meal and with all conditions as nearly normal as possible. The second claim is that the arterial tension, in the absence of complicating conditions, is abnormally low. The normal pressure in a healthy man is 15 to 18 cm., while in incipient tuberculosis it falls to 13, 12 or even 10 cm. The lower pressure is usually associated with increased rapidity of pulse.

Anemia is quite a common feature of the earliest stage of pulmonary phthisis and sometimes precedes physical evidences of the lung lesion. It is of the chlorotic type. Its presence must not be presumed, however, from the paleness so frequently observed in these patients. Hayem states, what I have repeatedly observed, that the appearance of anemia without change in the red corpuscles is presumptive evidence of the presence of tuberculosis. Chloroanemia should suggest a search for phthisis, especially if there should be loss of flesh instead of the customary plumpness of the chlorotic. It is of especial importance in males also if other suggestive conditions are present, such as abnormal corpulence, diminished vital capacity, poorly developed chest, etc. If the anemia

common to early tuberculosis has an especial characteristic it is, according to Jaccaud and others, a diminution of hemoglobin, which is excessive in comparison with the slight reduction in the number of red blood-corpuscles; in other words, the type of anemia we designate chloro-anemia.

Slight leucocytosis is common. Several observers have reported a number of basophilic granules in the large uni- and multinucleated leucocytes, which is thought to indicate the uric-acid constitution and to warrant a more favorable prognosis.

The few minutes allowed for the reading of this paper has made it necessary to exclude quotations of authorities.

Discussion.

Oliver S. Haines, M.D.: The strictest utilitarians among us could not find fault with the subject of the paper to which we have just listened with so much pleasure. This is a theme for discussion upon which both the specialist and the general practitioner may reflect, with much benefit to themselves, and with resulting benefits to the human race.

The problem that is daily confronting the medical man at the bedside of the sick is ever the same; the question that he is ever propounding to himself, and answering either affirmatively or negatively, is always "Can I cure" or "Can I ameliorate?" When the case in hand is one of pulmonary tuberculosis that has reached the stage of ulceration and tissue destruction the answer is generally a prognosis most unfavorable to recovery, so far as that case is concerned.

In the "*Early Diagnosis* of Pulmonary Tuberculosis" we may catch a gleam of hope for future cases. It matters not whether the disease hides its initial development behind the symptom picture of an obstinate bronchitis, or begins with apparent suddenness beneath the mask of a pneumonia, or openly startles us with a violent hemorrhage, we must always be keenly alert, and upon the lookout, scenting the danger from afar. The consciousness of having saved some lives is ample recompense for this eternal vigilance. One other thought in this connection, when we have made a diagnosis of pulmonary tuberculosis in its initial stage, *there must be no dallying.* No waiting for something to turn up, no expectant plans of treatment. We must at once adjust and put into active operation all those certain therapeutic measures which we know are curative in this early stage of the malady beyond peradventure.

I have thought that tuberculosis is upon the decrease, we do not see so many cases of advanced grade as we formerly did. There are some published statistical reports from different portions of the United States that seem to strengthen this belief. Conversation with several of my colleagues has brought from them similar expressions of belief. If it be true, why is it so? Are we any better

able to cure advanced cases of the disease than we were a decade since? I think not. Therefore, any decline in the number of cases must be due to something else. And I will venture the opinion that a large measure of "this something else" is our present ability to recognize pulmonary tuberculosis in it earliest stage, and thus to give the patient the advantage of treatment in the curable stage, and the benefit of those therapeutic measures that are known to be of value; namely, change of environment, suitable nourishment, fresh air and sunshine.

Many factors are at work which must determine a still further decrease in the disease. Our Health Boards and our municipal authorities have done a great deal and will do more. The impervious pavements, the diminution of ground moisture, our cleaner thoroughfares, our improved systems of drainage, all are most useful. We ourselves have done something, we live better, we dress more sensibly, we build better homes and we select better locations upon which to build them. Patients suffering from the disease are isolated to a great extent, and their sputa cared for properly. Yet all these means are only comparatively effective. The physician must do something. He must cure the disease when found. The early diagnosis furnishes the key to the situation.

J. W. DOWLING, M.D.: This paper is that of an expert diagnostician and appeals particularly to those who have made a special study of pulmonary diagnosis.

The various points elucidated undoubtedly enable an *expert* to give a pretty positive opinion as to the probability of a given case being tubercular.

It is unfortunately true that the early care of such cases in most instances falls to the lot of those who are *not* experts. It is too often the painful duty of the expert merely to confirm a gradually strengthening suspicion of the attending physician that his patient has developed tuberculosis. The general practitioner should learn the lesson that he can with little trouble make many of these same deductions, supposed to be possible only for the expert; some he cannot make. As the author says, the presence of the tubercle baccillus is frequently impossible to determine until late; the examination of the blood is beyond the skill of a large proportion of physicians, and but a very minute number possess a spirometer with which to determine the vital capacity.

He is therefore confined to the more simple methods, and without the presence of *some* physical signs even these are but suspicious evidence and give no positive results.

The *actual diagnosis* then does depend upon physical signs and upon these alone. All else but serves to warn the observer and, like the railroad "distance" signal, tells of *possible* danger ahead. I would not for one moment be thought to underestimate the importance of these points, but merely caution the general practitioner that any or all of the conditions enumerated may exist without the development of tuberculosis as a necessary signal. It is not desirable

to cry Wolf! Wolf! when there is no wolf, but far better to say "there are signs of wolves in the neighborhood; let us take all precautions to keep them at a distance."

I do not agree with the writer that "many cases (of pulmonary tuberculosis) are so insidious as to give rise to no local signs." I admit, as he says, they are often "of an ambiguous character only." In this latter case each of the suspicious signs he enumerated will have its relative importance, but I believe that even these ambiguous signs are of more actual diagnostic value than all the rest taken together. Without some physical signs, even though ambiguous, one can only suspect, watch and pray.

One of the earliest diagnostic signs in pulmonary tuberculosis and upon which too little stress is commonly laid, is an increase of whispering resonance. This can readily be detected even by an untrained ear, long before palpation and percussion give results of any value except to the expert. The tubercular process in the lung *begins* with an infiltration or thickening of lung substance, diminishing the amount of air, and making the lung substance a better conductor of sound. If the patient be instructed to whisper, this increase can easily and from the beginning be detected with the stethoscope. Its increase always means the first condition present in tuberculosis.

Of all physical signs this is the easiest to learn. A very small number of experiments with healthy individuals will enable one to become familiar with the normal intensity of the whispering resonance, and with this familiarity will come quickly a readiness to detect the slightest increase. This increase will serve to point out the exact portion of the lung involved, though the location is but a small matter compared with the actual presence of a focus of tubercular infiltration. Given this increase of whispering resonance, one can say positively lung trouble exists. Its nature, active or passive, then becomes a matter for determination by other physical signs and by observation. Herein, and *secondary to this diagnostic point,* lies the main value of the various methods of consideration enumerated in the paper.

I do not believe I have overestimated the value of this early physical sign nor underestimated the ease with which any physician can make himself familiar with its detection, and in conclusion would urge upon all a little study devoted to this particular point. It will well repay you, and you will less frequently have your patients returned to you by the expert with the diagnosis, "Well-marked phthisis, though in early stage." You will diagnose it yourselves and receive the credit now given to others.

G. J. JONES, M.D.: I wish to say a word in regard to the use of tuberculin. I have used very satisfactorily the thirtieth attenuation, giving one tablet each night for one week, then omitting for one week. Giving it alternate weeks in this way as long as it seemed indicated.

I believe I secure in this way all the benefits formerly derived from the use of Koch's lymph, without producing the aggravations so common to that.

Therapeutics of Pulmonary Tuberculosis.

By George Frederick Laidlaw, M.D.

This subject may be fitly premised by the statement that we have no specific antidote for the tubercular poison nor any specific remedy for its ravages on the tissues of the body. As physicians, we should approach this theme with becoming humility, for we are still groping in the dark and know not from which direction the light of successful therapeutics will eventually appear. We have sought help in the three great natural kingdoms and it is curious to note how the medical thought swings from one to another. In our own school, as well as in traditional medicine, the approved remedies were all minerals. The chief of them is arsenic, which is at present especially popular in the form of the iodide. Calcarea is a favorite and is used also as the iodide of lime. Potash, in the form of kali carb., is another, and has the recommendation of Hahnemann, who states that it is almost impossible to cure consumption without kali carb. Potash appears again in the form of permanganate, in large doses, with which cures have been recorded. Dr. J. O. Chase of New York has exhibited a patient cured by the drug. Phosphorus is a sheet anchor with the Homœopath and has been popularized by Dr. Churchill in the form of the hypophosphites of lime and soda. Churchill's work was conscientious and thorough, and his book is well worth reading.

Gold is an old-time remedy, both as the triturated metal and as the chloride. It has recently come into extensive use in the form of the bromide of gold and arsenic, as prepared by Dr. Barclay and much exploited in the journals. Dr. Shurley of Detroit recommends a solution of chloride of gold and sodium.

Iron is the most popular of all the minerals, especially in the early anemic stage. Iron is no specific for phthisis and its curative power is greatly overrated. Churchill condemns it. Iron and copper were largely used as antiphthisics by Rademacher, as also sodium nitrate, but his indications for their use are so vague as to be of little use. Copper has been revived recently by a French writer, and highly praised. Tin is palliative, not curative. Sulphur was the pulmonary

balm of the ancients. I agree with Rademacher in declaring it of no service in phthisis.

Recent practice inclines to the combination of the selected remedy with one of the halogens, especially iodine, as the iodide of arsenic, iodide of lime, bromide and chloride of gold and iodoform. Iodine itself is a good remedy and is the closest approach to a specific that is offered by the mineral kingdom. I prefer to use it in the form of hydriodic acid and have seen phthisis in the early stage cured by its long-continued use. I have also used with advantage bromine and fluorine, the bromine in a solution of equal parts alcohol and water and the fluorine in the form of sodium fluoride. One author is very enthusiastic over hydrofluoric acid administered in vapor, and sodium fluoride is endorsed by another as valuable in the tuberculosis of children.

The vegetable kingdom offers two prominent drugs, strychnin and creosote. You are familiar with the strychnin treatment introduced by Dr. Mays of Philadelphia on the theory that the degeneration of the lungs is secondary to a degeneration of the pneumogastric nerve. Strychnin, the remedy for nerve degeneration, becomes the remedy for the resulting phthisis. Dr. Mays' practise has been endorsed in various directions and I believe that not only is the pathology correct but that strychnin is a useful remedy.

Of the creosote and guaical treatment I cannot speak so highly. In theory it is certainly wrong, for no one familiar with the condition of phthisical lungs will think it possible to kill the bacillus with antiseptics. Aside from the theoretical view it is questionable whether creosote is of any practical value other than as a digestive tonic.

The vegetable kingdom has contributed a new and possibly valuable remedy in the nucleins and nucleinic acid introduced by Vaughn on the theory that the germicidal principles of the blood are nucleins and can be augmented by the administration of nucleins extracted from yeast.

The injection of germicides into phthisical cavities or the lung tissue itself has been practised, but is not without danger. Thymol, creosote and iodoform have been employed. One fastidious clinician injects perfumes, heliotrope and violet, into the cavities, much to the comfort of the patient.

I must also mention the subcutaneous injection of the antitubercular fluid prepared by Dr. Ingraham of Binghamton, New York. It is a solution of iodine, bromine, menthol and phosphorus in oil, a sort of artificial cod-liver oil. In my own hands it has been worthless, but good reports are given me by several confrères.

In its search for a remedy for phthisis the medical mind is now turning toward the products of animal life. With our grandfathers it was the extract of cod livers. With us it is tuberculin, bacillinum and goat serum. Burnett's bacillinum is a potentization of a piece of tuberculous lung. I have been unable to see any curative effects from its use.

Koch's tuberculin is a glycerin extract of the products of tubercle bacilli, toxins, with the bacilli themselves carefully filtered out. One-half per cent. phenol is added to preserve it.

To avoid the severe febrile reaction that follows the injection of tuberculin, Koch has prepared a tuberculin R. in which the toxins are extracted by distilled water and the bacilli removed by the centrifugal machine. It is less dangerous than the original tuberculin, and reports of cures are coming in. With the same end in view of making the use of tuberculin more safe, Klebs prepared an extract of tubercle bacilli which he called tuberculocidin, and later an improved product named antiphthisin, the name recalling the literature of the last century in which the tincture of the chloride of lime figures as liquor antiphthisica.

Dr. Paquin of St. Louis prepares a remedy from the serum of immunized horses. Some information on this subject may be contributed by our St. Louis members.

Maragliano immunized animals by injecting the toxins and uses the serum as a remedy. Its value is still under discussion.

In conclusion, there are two principles to which I wish to call your attention. All of the drugs mentioned may be described as useful or helpful. None can be called reliably curative. It may be that we have not yet discovered the true remedy, and again it may be that, having the remedy we do not use it in the proper manner. The disease progresses so slowly that both patient and physician tire of waiting for improvement and change to some other plan of treatment, which, in its turn, fails to bring forth anticipated results.

The second observation is that the remedy that relieves the most obvious symptoms will not necessarily cure. Arnica, geranium and thlaspi will check the hemorrhages; pilocarpin, calcarea, phosphoric acid or camphor relieve the night-sweats or diarrhea; codein or the indicated remedy may relieve the cough, but the physician who lulls himself into the belief that he is curing phthisis because he can check a hemorrhage has a rude awakening before him. In fact, it may be, as it is with diseases of the kidney, that the palliatives do not cure, and the real curative remedies do not give rapid relief of the symptoms.

Discussion.

John R. Kippax, M.D.: In briefly discussing the concise yet comprehensive résumé of the therapeutics of pulmonary tuberculosis presented by Dr. Laidlaw, I desire to slightly qualify the first statement made therein, by submitting that there is no known general specific—Homœopathic or otherwise—for tuberculosis. No individual therapeutic agent from any source has yet been discovered that will reach satisfactorily every case irrespective of class, stage and complicating condition. We have abundant evidence, however, that medical treatment does afford material aid to the general treatment by climate, open air, nourishment, rest and exercise, in the endeavor to overcome the receptivity of the organism for the specific bacillus, or to aid the natural defensive processes in limiting the destructive work of the germ.

"Good health" has been said to be the best remedy for tuberculosis. This is to a certain extent true, for the more perfect the general health of the individual, the greater is his resistive power against the tubercle bacillus, which seems to be the most widely disseminated of all pathogenic microbes.

Paradoxical as it may appear, tuberculosis is the most curable of all chronic diseases, and its death-rate, which is in this country about twelve per cent. of all deaths, is light as compared with the number of individuals who are tubercular. It has a slow evolution and is often spontaneously curable.

The reports of different observers show that from three-fifths to over one-half of all persons dying from whatever cause that come to the post-mortem table, give evidence of tuberculous infection in the lungs, while vital statistics further demonstrate that within the past few decades pulmonary tuberculosis has been diminishing—and that much more rapidly than has intestinal tuberculosis—in importance as a factor in human mortality. And we have reason to hope that with the elaborate measures now being devised to combat it, it will speedily become less formidable to the human race.

The therapeutics employed in pulmonary tuberculosis cover a wide range. The power of the indicated remedy to influence beneficialy the course of the disease and improve the general nutrition, thereby enabling the tissues in many cases to make a successful fight against the bacilli, has been amply demonstrated. It affords me much pleasure to bear the most positive testimony to the value of the compounds of iodine, especially the iodides of arsenic, lime, antimony and tin. With Dr. Laidlaw, I consider the iodide of arsenic the most important constitutional remedy in tuberculosis. It is specialy indicated in cases of deficient nutrition, when notwithstanding a good appetite, the patient loses weight. The iodides of antimony and tin exert a marked influence on the cough with mucopurulent or purulent expectoration respectively. I have also found hydriodic acid a highly satisfactory preparation.

The hypophosphite of lime IX trit., as recommended by Dr. Goodno, is of service in the early stages, especially in young sub-

jects, when the cough is slight the temperature subfebrile and there is a tendency to sweat.

In cases dependent on an underlying neurotic condition and characterized by feeble digestive power, strychnin arsenate 2x trit. is certainly a remedy of value. The close affiliation of the pneumogastric nerve, the oblongata and other nerve tracts with the respiratory function, may, as Dr. Mays holds, explain the at times apparent neurotic origin of pulmonary tuberculosis. Ferrum phosphoricum is of service for the anemia or chlorosis, which not unfrequently precedes this disease. It is of but little or no use when there is febrile movement with a temperature above 100°. As a prophylactic I believe it to be of great value.

Phosphorus as a remedy stands next in importance to the iodide of arsenic. It is frequently called for in advanced as well as incipient cases. These two remedies have, in my experience, proven most satisfactory ones in the treatment of this disease.

With Dr. Laidlaw I do not consider sulphur a remedy of much value for continuous use in tuberculosis. It is in chronic pneumonia rather than in tuberculosis that its good effects are noticeable. As an intercurrent remedy throughout the disease it is, however, at times of service.

Creosote—for which creosotal (the so-called carbonate of creosote) and the carbonate of guaiacol have of late been substituted—has, until quite recently, enjoyed an unwarranted reputation as an internal remedy of special value. Dr. Laidlaw has given us a correct statement of its worth, for all that is now seriously claimed for it is that it has a beneficial effect upon the cough, and also upon the digestive tract if not administered in excessive doses.

As to bacillinum or tuberculinum, which Dr. Burnett and others claim to have successfuly employed in this disease, I may state that I have little or no confidence therein. My experience has been similar to Dr. Laidlaw's in that I have not noticed the good results from their use that these observers claim.

The other remedies which have been successfully employed are bryonia, calcarea carb., digitalis, kali carb., lachesis, lycopodium, sanguinaria, stannum mur. and silicea.

The treatment of the pyrexia is ofttimes a difficult problem. Subfebrile temperatures call for no special treatment. With temperatures above 101° patients need to be at rest in bed, and allowed a maximum of fresh air and sunshine.

Baptisia has proven a valuable remedy for the early and late fever of the disease; and the arsenate of quinine has been of service for the remittent fever of the early stages, and also later when septic symptoms appeared.

The tar products, of which acetanilid is preferred, exert as is well known a marked influence on temperatures, and the moderate use thereof in tuberculosis is sometimes advantageous. It should be remembered, however, that they are all powerful disturbers of the nutritive processes and should never be administered in large doses.

Aconite, bryonia and gelsemium at times render excellent service. Hepar sulph., or silicea may prove helpful in cases associated

with cavities, by virtue of their close relation to the suppurative process.

The cough in pulmonary tuberculosis is one of the most constant and annoying features. In many cases it is in some degree salutary, as in the cough upon rising, during which large quantities of accumulated secretion are expectorated. Often it is so excessive as to interfere with sleep, eating and digestion, and may even induce vomiting.

Drosera in material doses, as an intercurrent remedy, will in such cases frequently afford relief. Laurocerasus has been found of benefit for the dry and troublesome cough in the early stages, with anorexia and iritability of the intestinal tract. Belladonna has an excellent effect at the beginning when there is a dry cough with dyspnea. Terpin hydrate has been recommended when the expectoration is abundant, but I have had no experience with it.

Additional remedies not infrequently of service are bryonia, hyoscyamus, ipecac, kali carb., lycopodium, sanguinaria, silphium and stannum mur.

Sometimes inhalations prove very efficacious in relieving the excessive cough and irritation of the bronchi. For this purpose the steam atomizer or some form of respiration-inhaler may be employed, the liquids used being some of the various balsamic preparations and antiseptics, as creosote, eucalyptol, etc. I have used with satisfaction Robinson's perforated zinc inhaler, and more recently a light fine wire-cloth inhaler, the sponge of which is kept moistened with a few drops of a mixture of equal parts of alcohol, chloroform and Morson's beechwood creosote. In some cases the addition of about one-fourth the quantity of ethyl iodide to the mixture proves highly serviceable. The inhalation of compressed air in the so-called "pneumatic cabinet" may by producing distention of the air-cells prove beneficial in many incipient cases. The importance of retronasal irrigations in the prophylaxis and treatment should not be forgotten.

The local treatment by direct injection of antiseptics, such as iodoform, iodine and carbolic acid into the diseased areas of the lungs, was for a time warmly advocated, but has been for the greater part abandoned, being, as Dr. Laidlaw has already stated, occasionally followed by serious results.

Pain in the chest seldom calls for special treatment. Pleuritic pains are best combated by aconite, bryonia or kali carb. and intercurrent intercostal neuralgia by bryonia, gelsemium or the nitrate of aconitine 3x as recommended by Dr. Goodno. Strapping of the side frequently affords relief when pleuritic pains are severe.

The sweats of pulmonary tuberculosis if moderate do not require any special treatment. It is only when they are profuse enough to necessitate change of clothing at night, or to exhaust the patient that an intercurrent remedy therefor is required.

The remedies oftenest of service for this annoying feature of the disease are agaricine 1x., atropine 2x., and pilocarpine 2x. Not infrequently phosphoric acid, ferrum, arsenicum, cinchona or silicea, when indicated for the general state, covers sufficiently this

special symptom, and no intercurrent remedy is needed. Sponging in dilute vinegar is often very effective.

The care of the digestive functions is one of the most important points in the treatment of this disease. As long as the digestive tract is in good condition the chances for success are favorable. When decided gastro-intestinal disorder exists the outlook is not encouraging. Dyspeptic symptoms and diarrhea in most cases appear sooner or later. Catarrhal conditions, a common cause of feeble digestive function, should be corrected by the use of proper remedies and by proper regulation of diet. The dyspepsia which sometimes precedes the disease for months, may frequently be brought under control by diluted hydrochloric acid, ten to fifteen drops in a wineglassful of water before meals. A large wineglassful of good malt, preferably bitter, also assists it.

Nux vomica, pulsatilla, ferrum, argentum nit., arsenicum, lycopodium, carb. veg. and kreasote are useful remedies. Hyperesthesia of the pharynx, which is frequently a cause of vomiting in tuberculosis, may be controlled by applications of a solution of cocaine ten grains with boric acid five grains in glycerine and water one ounce. Chopped ice with brandy sprinkled over it, given before and after meals, tends to allay stomach irritability.

Daily lavage with the hot or the alternating hot and cold douche containing three percent of bicarbonate of soda may be found useful in getting rid of gastric catarrh as a complicating condition. Cod-liver oil acts beneficially by improving the nutritive processes, but on account of its tendency to upset digestion it does not now play the universal rôle it formerly enjoyed in the treatment of this disease.

Diarrhea is a symptom that should never be neglected. When slight it may be corrected by a properly restricted dietary. More obstinate cases will require the administration of either cuprum ars., phosphoric acid, ferrum, merc. corr. arsenicum, argentum nit., or veratrum alb. In cases of intestinal ulceration daily irrigations of the bowel with boiled water or a weak boracic-acid solution may prove useful.

Hemorrhage, if slight, rarely requires special treatment, as it usually stops spontaneously in a few minutes. Large hemorrhages, however, may continue for several hours or even days and require active efforts to check them. In all cases the patient should go to bed and not be allowed to talk or to make any exertion.

Hemoptysis is usually controlled by either hydrastinine, hydrochlorate, millefolium or geranium.

Aconite, arnica, ipecac, hamamelis, ledum, sulphuric acid and thlapsi may be mentioned as possible remedies.

Ergot, or more especially ergotine, has been highly praised by many, but it is I believe of doubtful utility. As it causes an increase of blood pressure not only in the aortic but also in the pulmonary circulation it must often aggravate rather than check hemorrhages from the lungs.

Two teaspoonfuls of finely powdered salt is a domestic remedy that is sometimes effective.

Cracked ice may be given with advantage, and the application of ice to the chest over the bleeding area is strongly advocated.

The serum treatment as applied to pulmonary tuberculosis is far from being the "culminating achievement in therapeutics of our century" as some would have us believe. For neither from Maragliano's serum, Koch's tuberculin or tuberculin R., Paquin's serum, or any antitoxin has successful results up to this time been obtained as to entitle the treatment to any serious consideration. Something may be developed that will be successful, as the antitoxins of diphtheria and tetanus have been, but the prospects do not seem at all brilliant. As far as the original tuberculin is concerned its chief value at the present day is an agent in forming diagnosis.

Among the numerous other measures that have been recently exploited, the only one that to any extent redeemed its promise is the nitrogen-gas method as suggested by Dr. Murphy. It consists in deflating the lungs by artificial compression, accomplished by the injection of nitrogen gas between the pleura and the lung. By this mechanical method the lung is put out of action for a time, thus giving it a rest that it may have opportunity to heal.

A more thorough trial than it has yet had will be necessary to determine the actual value of this novel procedure in the treatment of pulmonary tuberculosis.

L. A. MARTIN, M.D.: After Dr. Kippax's masterly discussion there is little left to be said on this paper. I wish, however, to take issue with Dr. Laidlaw as to there being no specific known. It has been my impression that the indicated remedy properly applied was as near a specific as is possible. Where I have failed under this method I have laid it to faulty therapeutics. Combined with the indicated remedy feeding has been the next best thing. I have been very fearful of exercise in advanced cases. I find it increases the temperature and heart action and the liability to hemorrhage. Dr. Laidlaw refers to the Ingraham treatment as an artificial cod-liver oil. It is something more than that. It is:

Sterilized cod-liver oil	1	dr.
Iodine (chemically pure)	1/2	gr.
Bromine	1/14	gr.
Phosphorus	1/100	gr.
Thymol	2/3	gr.
Menthol	2/3	gr.

Sig. Inject into arm or shoulder once a day.

Under this treatment patients gain in weight, cough stops and the bacillus disappears. Ninety per cent. of early cases are cured and thirty per cent. of cases in advanced stages.

Prof. Latz of Chicago, in the *Dunham College Journal*, has given us a diagnostic test which will find the bacillus, no matter how few their number. He says:

"Mix thoroughly the sputum with pure carbolic acid and small whitish masses or lumps will be observed at the bottom of the sputum, even though this was first a uniform liquid. Spread these

whitish masses in a very thin layer upon a cover glass and make a microscopical examination. After the usual staining process has been completed many bacilli are apt to be found in all cases of tuberculous sputum. In the remaining liquid part of the sputum it is difficult to demonstrate the presence of tubercle bacilli."

In climatic treatment we have in the Adirondack region of New York State a climate second only to the southern slope of the Alps.

Here many seemingly hopeless cases are returning to health every year. And many private hospitals are doing good work for consumptives in all stages.

A bill for a State Home for Consumptives, asking for an appropriation of $100,000 to build such a hospital in the Adirondacks was before the Legislature this spring and defeated only on account of the amount asked. We have every promise that it will go through next year.

The Relation of Climate to Pulmonary Tuberculosis.

By Edward Beecher Hooker, M.D.

It has long been known that in certain regions of the world consumption is a rare disease and that persons afflicted with it received benefit from prolonged residence in those regions. The reason for this has not been known so long, nor do we yet understand it fully, but our knowledge is far more complete and exact than it was a comparatively few years ago. Observation also showed that consumption prevailed extensively in other regions and that these possessed climates widely different from the former.

In a simple way climates may be classified as high and low, dry and moist, hot and cold, varying in degree from moderate to extreme. In the sunny dry climates, either hot or cold, and especially in the elevated dry climates, consumption is not prevalent and it is notably rare in the more thinly populated regions of these climates. On the other hand consumption is very prevalent in the cold, damp climates, especially in those regions having a damp soil and in the more densely populated places. Thus before the discovery of the bacillus tuberculosis and the contagiousness of consumption it was learned that dry, pure air is the best remedy for phthisis and that damp, impure air favors its development. With the advent of the bacillus tuberculosis on the scene the reason for the rarity of the disease in the pure air and its frequency in contaminated air was disclosed and thenceforward heredity gave way to environment as the most potent causative factor.

While all dry, sunny climates, either hot or cold, are favorable to the arrest of consumption, the preponderance of evidence indicates that the high climates are the most efficacious in the majority of cases. There are a number of reasons to account for this. Experiments have demonstrated that the diminished barometric pressure of rarified air increases the amount of hemoglobin and the number of red corpuscles in the blood. Both man and animals have been tested by residence at ordinary levels and at high altitudes, with the result that this increase has been found constant and bears in

some measure a definite relation to the degree of elevation. Since the air in high altitudes contains less oxygen, respiration and heart action are increased in frequency, respiration becomes deeper, all the air-cells are brought into action, the chest muscles are strengthened and the chest enlarged, with the result of increased powers of oxidation and tissue change. The atmosphere of the elevated regions is very dry, especially in winter and fall, and the air is exceedingly clear, in the absence of fogs and clouds. Abundance of sunshine prevails throughout the year and outdoor life is possible at all seasons. The unfavorable elements are the wind and dust. While the air in the cities of the elevated regions contains impurities, such as are found in cities in any climate, the air of the prairies is absolutely germless and the air of the cities themselves is not so badly infested with micro-organisms as that of seaboard cities, for instance. It has been stated that the direct rays of the sun destroy the vitality of tubercular bacilli in a few minutes. This may be true of germs obtained by laboratory culture, but it is not yet satisfactorily demonstrated of bacilli taken directly from the sputum of consumptives. Dr. Chas. Fox Gardiner of Colorado Springs, succeeded in producing tuberculosis in guinea-pigs by inoculation with dried sputum that had been exposed to sunlight from two to twenty-four hours. On the other hand he was unable to produce tuberculosis by inoculation with dust taken from hotel bedrooms, hospitals, sanitaria and private houses containing tubercular patients. It is also interesting to note that there was far less septic infection from inoculation with dust from a general hospital in Colorado Springs than from dust taken from the tubercular wards of a New York hospital.

The benefit which a consumptive derives from residence in a country of high elevation is not wholly due to the climate, but arises from a combination of elements, made up mainly of climate and outdoor life, but in which change of occupation and scene, nourishing food and mental impression form a part. Perhaps the most significant thought of recent years is the idea that air, that life in the open, in any climate is of great curative value, of course the better the air the greater its value as a remedial agent. Those who follow indoor occupations, especially in contaminated air, are the great sufferers from consumption and the change from that mode of life to one spent in the open air is of vital importance, if pulmonary weakness is imminent.

Theoretically it appears not to be difficult to determine where to send our consumptive patients. We know the beneficial affect of

residence in the great dry belt, composed of Colorado, Utah, Arizona, New Mexico and Western Texas, where there are sunshine in abundance, pure dry air and elevations from sea level (or lower) to seven or eight thousand feet. We know what the Adirondacks have done for failing lungs and that the mountain slopes of North Carolina are suitable for tubercular patients. We have even heard it hinted that Atlantic City possesses a climate which makes it an all the year resort exceptionally desirable for those who are unwillingly entertaining the elusive bacillus. But in spite of our knowledge of climatology, reasonably accurate though it be, it is often exceedingly difficult to prescribe the proper climate in individual cases, so many factors enter into the problem. The first point to determine is the stage of the disease, for one of the most important lessons which experience has taught is that the earlier the change of climate is made the more certain the favorable result. This is so well known that it needs no further exemplification, although it is not so long since patients with cavities have been sent to Colorado, only to die there in loneliness or at best to pray to live long enough to return to the East and die at home. Patients in the first stage may therefore be safely sent away from home, if there are not other reasons which render such change unwise or impossible. Patients in the second stage, that is, when consolidation has occurred at one apex or at both, reaching as far as the third rib, may also be sent away, but their outlook is not so encouraging and their surroundings need to be exceptionally favorable. When the lung has broken down and cavities have formed it is useless and cruel to send patients away from home and friends.

But suppose that we have a patient in the first stage of phthisis. Where shall we send him? That depends largely on his financial condition. If his means are ample I should say send him to an elevated climate, Colorado or New Mexico, unless he has heart disease, with hypertrophy or dilatation, emphysema, high fever or is of a highly nervous temperament. If he goes to Colorado I should recommend Colorado Springs or Boulder as a place of residence. I doubt if I shall again send patients to Denver. In my opinion it has become too large a city, too densely populated, too smoky and dusty for consumptives. There is outside the city, however, a delightful country for residence, if accommodation for invalids can be found there. If heart weakness or nervous irritability forbid the altitudes and yet a dry climate is desired the Salt River Valley of Arizona offers superior advantages and Phœnix has first-class accommodation for the seekers after health.

Unfortunately, very many persons who need change of climate have not the means to journey far from home or maintain themselves, except at very moderate expense. A still larger number have no means whatever outside their own earnings, or the scanty income of some other member of the family. What can be done for these unfortunates? If they cannot go to the climate most likely to restore them to health they can at least make use of the open-air treatment and live outdoors entirely seven or eight months of the year, and a large part of the time for the remaining four or five months. The establishment of hospitals and sanatoria, public and private, in the various States for the treatment of consumption in the localities most suitable for such institutions, is a long step towards the lessening of the ravages of tuberculosis. Results are obtained in the Adirondacks which are not far below the recoveries made in the altitudes. But it is not possible or necessary to send all the consumptives to the Adirondacks, or Liberty, or to North Carolina who are unable to go to the high elevation of the Rocky Mountain resorts. The sanitarium treatment can be carried out in any State of the Union and there can be no more urgent or noble charity than the establishment of such institutions. They are demanded alike for those of limited means and for the indigent on one side and for the protection of the community on the other. While only a certain per cent. of the incipient cases can be cured, yet the treatment of cases in all stages is desirable, since the rigorous hygiene enforced serves to limit the spread of the disease. At present there are but few hospitals and sanitaria in this country devoted exclusively to tuberculosis and it will be many years before all cases needing such institutional treatment can be cared for. The sentiment of the profession must become pronounced in this matter and the public educated until its opinion strongly upholds the building of these hospitals. In the meantime it is possible, by perseverance and ingenuity, for individuals of limited means (not for the indigent, however) to obtain, with the advice of their physicians, the main features of sanitarium treatment. In the first place and most important of all—the life in the open air. Suppose for instance that a member of a family of small means is found to be in the incipient stage of phthisis. The income of the family from all sources is sufficient to support the invalid in idleness at home, but not large enough to pay his traveling expenses to a favorable climate or to pay for his board after he reaches there. He can have the shelter and the food of the home, but beyond that not much can be done for him. What can he do for himself? If the family can

scrape together enough money to build upon the rear or side of their house a second-story piazza, be it small or large, but the larger the better and upon the south side, the invalid can do much for himself. In this elevated, sunny nook he can make his home, passing all his time there when not walking, wheeling or riding in the trolley. There he can take his meals, read, rest and sleep, when not driven inside by the severity of the weather. In other words, he can obtain the life in the open, which he is seeking first of all. I venture to assert that a person essaying such a life could spend more days and nights in the open air in the rigorous climate of New England than would be thought possible, provided the treatment were started in the summer and proper clothing worn as the season advanced. With nourishing food, scrupulous care of the sputum and judicious exercise he would have the essential features of sanitarium treatment, he would enjoy association with his family without danger to them and his drain upon the family purse would be reduced to a minimum.

Discussion.

A. M. Cushing, M.D.: Having had to battle the disease sixteen years in my own family, I have learned something about it. In the first place, no one ever dies of consumption who is gaining flesh or fat. Therefore, it is more necessary to care for the digestion than for the lungs. Give them a nourishing diet. One patient, aged forty, inherited weak lungs, had a bad cough, lost flesh and it was feared she was going rapidly with consumption. She drank four quarts of milk and ate one pound of chocolate caramels each twenty-four hours and her cough and consumption tendency rapidly disappeared. A man aged fifty, sick two years, had cough, profuse purulent expectoration, exhaustive morning diarrhea, quite a cavity in left lung, and it was decided he could not live over six weeks. I was called and directed treatment to stomach and bowels. An expert said there were consumptive microbes in the sputa. After some months of usual treatment with some improvement, I gave the indicated remedy, well attenuated by hypodermic injection into the arm; and I gave once in three or four days in the same way a few drops of pure olive oil medicated with essence of cinnamon. (The last as a microbe killer.) And there was immediate and rapid improvement, so that in three months he was able to resume business and has continued it for four years.

When we find remedies with curative action it is but common sense to believe they will also act as a preventive; and the earlier we begin the preventive treatment the better. I believe that the better way is to give the remedies, not too often repeated, by hypodermic injection, and if the stomach is unable to perform its functions, especially if it is foul as in most consumptive patients, olive oil given in the same way till the stomach can care for the food will give the

patient a start towards recovery. In all cases the patient should be nourished the best we can, and the most nourishing diet is raw eggs given in lemonade, swallowed whole or beaten; but other food can be given. Give one or more raw eggs a day and if they can take five or six eggs a day we shall have no funerals.

J. P. RAND, M.D.: A writer in the *Journal of the American Medical Association* has made this summary which I think will be of interest to you:

"*Decrease of Death-rate from Pulmonary Tuberculosis.*—Roughly stated, 20 principal cities, having an aggregate population of about seven and a half millions (7,478,506) in 1888, had nearly twenty-five thousand deaths (24,708) from consumption in that year, in 1897 the same group of cities, with an aggregate population of nearly ten millions (9,971,341), had a little more than twenty thousand deaths (20,161) from this cause. In exact percentages and per milles the following are the figures: Death-rate per 10,000 of population from consumption in 20 cities, in 1888, was 33.03; in 1897 it was 20.21; decrease in death-rate 38.8 per cent. Actual decrease in number of deaths, 4,547. Actual increase in population, 2,492,835; per cent. of increase in population during the decade, 33.33.

"In four of the reporting cities, namely, Minneapolis, St. Paul, Denver and Omaha there is an actual and relative increase, due, as to the first three, to the increasing number of imported cases, concerning which Health Commissioner Munn of Denver estimates that 85 per cent. of all consumptive patients in that city are exotic. Among the remaining 16 cities the most notable reductions are Buffalo, 46 per cent. decrease; Cincinnati, 44 per cent. decrease; Philadelphia, 43 per cent. decrease; New York, 30 per cent. decrease; Brooklyn, 28 per cent. decrease, and Chicago, 24 per cent. decrease." —*Jour. Am. Med. Assoc.*

I have no time to discuss the subject. These figures speak for themselves. Tuberculosis is already on the decrease, not as a result of drug treatment, not at all. We owe it all to a correct knowledge of its pathology and improved methods of sanitation which now obtain, for an intelligent fear of any disease is the beginning of therapeutic wisdom.

A. L. BLACKWOOD, M.D.: There are three things that must be noted with respect to the climate: First, the patient must be there early; second, the climate must be suited to the patient, and third, when a climate is found that is suitable the patient should remain there permanently. I believe in Dr. Gatchell's paper—we have something we should keep in mind. Many of our patients are not able, from a financial standpoint, to take a journey and to remain away from home, but any competent physician thinking for a moment can instruct the patient in pulmonary gymnastics, and they can benefit themselves at home. It must not be general gymnastics alone, for that might be detrimental to the pulmonary tissues. They should be instructed how to develop one lung in preference to the

other when necessary, and the diseased portion of a lung in preference to the healthy portion.

W. H. HANCHETT, M.D.: A wise aphorism has been given us by a doctor, not of medicine, but of divnity—Dr. Edward Everett Hale. He once said that the best thing for the inside of a man is the outside of a horse. He told them to go to Omaha and buy a horse and ride to Colorado and back to Omaha and take the train for New York or Boston and they would be well.

T. C. DUNCAN, M.D.: I am deeply interested in the subject of tuberculosis, and I think some decided action should be taken to protect the people and preserve life. In Europe they are establishing sanitaria in large cities. These should be encouraged here in all of our large cities. No section of the country can show the immunity that the Southwest can. We should advise the Government to set aside some of the old military posts for that purpose.

As to the early symptoms of tuberculosis, the cough, dry hacking or just a hack, is to me alarming. It shows obstruction of respiration. If regular it may be cardiac. There can be no obstruction of breathing without an effort at clearing the lungs. That increases the action of the heart together with increase of the pitch of the respiration, and are to me quite diagnostic. Where the disease sets in as bronchial pneumonia here the persistence of pneumonic irritation is significant, especially if not cleared up rapidly by *kali phos.* Chronic pleurisy and chronic pneumonia are both suspicious. The same is true of recurrent bronchitis if not due to cardiac complications.

I should like to discuss the climate cure, but I regret to say I have to leave at this point. Why and how climate cures should be known.

P. H. SIGRIST, M.D.: In discussing the treatment of pulmonary tuberculosis we should never be unmindful of the truth that the indicated Homœopathic remedy gives relief and cures curable cases under proper care and nourishment. But I wish to say a few words concerning the efficacy of two drugs in the treatment of pulmonary tuberculosis. They are arsenicum iodide and iodine. They work wonders when properly indicated. You will find arsenicum iodide indicated in scrofulous subjects with cavities, expectoration, mucopurulent, hectic fever, night-sweats with much debility, pulse rapid and weak. Give the remedy not below the second or higher than the twelfth.

Iodine, like arsenicum iodide, is especially indicated in scrofulous subjects. A characteristic of the iodine patient is torpidity and sluggishness. Iodine I give from the first to the twelfth.

T. E. ROBERTS, M.D.: For twelve years I have watched with considerable interest the advanced methods for treating tuberculosis of the lungs. The more I have watched this treatment the more I am convinced that we cannot surround our patients with too many

curative agents. As soon as the case comes into our hands we at once try to set in motion everything to benefit that one specific case. Hence, I think we sometimes, so far as the therapeutics are concerned, so far as the administration of the internal remedy, we may be led, perhaps, to give it more credit than is actually due. Because you cannot always tell what your internal remedy is doing. However, I can speak positively in regard to two or three remedies from my own experience. Iodide arsenicum, which was particularly spoken of by Dr. Kippax yesterday afternoon, I have seen the best results from the third attenuation. I have never given it any higher than the third. It seems to me that we should give it in such doses that we can get the action of the arsenic and the iodine. We must give it low enough to get the specific action of these two drugs.

JULIA HOLMES SMITH, M.D.: The subject of the treatment of tuberculosis has absorbed a great deal of my time and thought during the last ten years, for the curse of heredity has reproduced through many generations the germ tendencies of this disease in my own family, and of the many experiments I am free to confess that there are few, if any, drugs, either in the old or the new school of medicine, which in my hands or under my observation have proven more than palliative. This disease is really hydraheaded, attacking different parts of the organism where one least expects its presence, hence there can necessarily be no specific. Each case is unique in its symptomatology and one has to study in tuberculosis, perhaps, more than in any other malady the totality of the symptoms. Iodine, in its different forms, as calcarea iodide, arsenicum iodide and kali iodide, have been used satisfactorily when indicated. For the tough, stringy expectoration which takes the patient's strength when coughing, kali bichromicum has served me well. Terebine is invaluable in some cases. For night-sweats which leave the patient utterly exhausted I am in the habit of using sulphuric acid, about ten drops of the 1x dilution in a half tumbler of water, a teaspoonful every two hours. A sponge bath at bedtime of vinegar as warm as can be borne has been very serviceable. I cannot too highly recommend the preparation of morrhuel, which is made by Chapautau of Paris. It is put up in capsules of five grains each, and in these we get all the active principles of cod-liver oil, without the disagreeable taste. I am using it now in a case of pulmonary tuberculosis, where the wasting had been rapid and extreme, with excellent results. The loss of weight has ceased and the patient is able to take other nourishment, which had not been the case when other preparations of cod-liver oil had been used. Dr. Roberts has spoken of the importance of the palliation of the sufferings of the patient with hacking cough. The importance of a remedy such as codea cannot be overestimated, and I believe that it is the duty of the physician to minimize the suffering of a tuberculous patient to the utmost in his power. Within the past two years I have been most fortunate in the use of a new preparation of morphia sold by Schieffelin & Co., of New York and called heroin. It is put on the market in 1/12 grain tablets and I usualy advise one tablet about half-past eight in the

evening, and in mild cases this would be enough to insure a good night's rest. When, however, the cough proves obstinate and sleeplessness is wrecking the patient's nerves and strength, I order the dose repeated in two hours, thus giving 1/6 gr.—no more. In addition to quieting the cough, the effect of the heroin is good in slowing respirations and so giving the lung a rest, which is so desirable for the efficacy of drugs. The use of the cresolin lamp for inhaling, which has of late become one of the adjuvants in the treatment of croup, serves to introduce the creosote where it is needed in the air cells without the fatigue of special effort, as is the case when the patient is given the ordinary apparatus. The easier the breathing, the more potent and finely nebulized the drug, the more certain will we be of results from any local application to lung tissue.

H. Knox Stewart, M.D.: In speaking of tuberculosis and the treatment of the same, there is one very valuable remedy in my hands which I have not heard mentioned, to which I would like to call your attention, and ask if other physicians have used it, what have been their results, and if others have not used it I would like to have them do so when the remedy is indicated and report the same to the tuberculosis section of the Institute, as I find valuable aid resulting from the use of this remedy. It is copaiba. When there is marked oppression of the chest, with labored breathing, and in a stooping position pressure and pain in the sternum and very slow respiration. Chronic pulmonary catarrh with profuse expectoration of a greenish-gray purulent mucus of a disgusting odor frequently mixed with blood with copious involuntary watery stools, worse in the morning, with loss of appetite, mucous stools with nausea and vomiting, with nettlerash seeming to be brought about by the exertion of coughing, violet smell of the urine. Hoarseness of the voice, especially in the morning, with excruciating pain in the larynx when talking. The voice loses its compass, the higher notes causing an excruciating pain which finally makes almost a complete aphonia, dry cough, cough with difficult expectoration of greenish mucus. Red hot skin and nettlerash all over the body, violent chills and headache, delirium and drowsiness with scanty urine, with brick-dust sediment. Great dyspnea with raw sore feeling of larynx and constriction of chest walls as though the patient would smother. I find copaiba a grand remedy where phosphorus fails.

Mr. Chairman, I arise simply to answer my friend, Dr. Fahnestock, who very kindly wishes us to remember that we have calc. carb. hepar sulph., iodine phos., kali phos., calc. phos. I would not wish to have any one misunderstand me. I am a Homœopath and try to be a careful prescriber and will not use any remedy I do not think indicated. I do not wish any one to forget our old tried and true remedies, but simply ask you to add one more star to your crown by using copaiba when indicated. I find the best results from sixth to twelfth decimal.

We have but very little literature on copaiba. I get my knowl-

edge of the drug from personal experience in provings and use it among my own patients with best results in the so-called hopeless cases. The relief in some cases being almost little short of miraculous. Try it when you can and report results. I have better health to-day than ever before in my life of over 50 years, started by copaiba and all due to Homœopathy.

CH. GATCHELL, M.D.: The statement has been made that those who make recovery should remain in the new climate a lifetime. This I would qualify. It is not true in all cases. It depends upon the patient, and at what stage of the disease process he made the change of climate. If the disease is in the early stage, with little area of lung-tissue involved, the patient should remain in the new climate one year after recovery, in order to confirm the recovery. Then he can return to his former home. Of course he is not guaranteed against a second attack, should he resume his former mode of life, without attention to proper air, or proper breathing. One attack of tuberculosis grants no immunity. On the other hand, if, in the given case, the amount of destruction of lung tissue is considerable, then after recovery it is safest for the patient to remain in the new location. In my own case, I went to Colorado while the disease was in its incipient stage. I staid two years and made complete recovery. Since returning I have never seen a sick day. But for more than twenty years I kept up systematic breathing exercises.

CHARLES MOHR, M.D.: In answer to the question respecting the treatment of high temperature occurring in pulmonary tuberculosis I desire to call especial attention to baptisia, which I have found in hospital and private practise to be a very efficient remedy in those cases of advanced tuberculosis, or in cases of rapid phthisis where the temperature is persistently high and the symptoms are of a typhoidal character. I have seen a temperature of from 104° to 105° Fahr. come down to 99 or 100 in a few days and remain at the lowest point. Let me call attention to a remedy sometimes useful in pulmonary hemorrhage. One of the members of our Institute who has been in attendance at the present session was depleted and in a dangerous condition from profuse pulmonary hemorrhage some years ago. When all measures that had been resorted to failed, in consultation with his attending physician, I advised the use of acalypha indica 3x, and the result was all that could have been desired. The hemorrhage was so profuse that I witnessed a full basin full of blood at my first visit. In this patient's case I believe there has been no return of hemoptysis and he has been able to continue his practise at his home and is now apparently in good health. In hemoptysis, especialy in tubercular subjects, I have found the acalypha very useful, especialy where the cough is associated with little mucopurulent expectoration, but pure blood is freely ejected in the morning, and is clotted in the evening, the arterial hemorrhage being preceded by burning in the chest.

As I look over the audience I see the doctor to whom I have referred, and if he chooses he can speak for himself.

W. M. GRIFFITH, M.D.: I am the man the doctor has referred to and to whom the doctor gave the remedy.

Dr. Mohr prescribed acalypha indica while I was suffering from hemoptysis in July, 1893. I had a number of hemorrhages, some quite profuse, so much so that I was considered to be in a very critical condition. Dr. Mohr came to see me while in this state and the remedy was given, sixty drops of ♂ in four ℥ of water. I took one teaspoonful every half hour for a few doses, then every hour while awake for four or five days, and continued the remedy occasionally for two or three weeks. There was only one slight hemorrhage after taking the first dose. I was able in a day or so to entirely clear the air passages of all clots of blood which to me is an important item in treating hemorrhages from the lungs. The remedy in my case left the heart free to act normally and the flow of blood was stopped in such a way that all clots were readily removed.

After a rest of seven weeks, part of the time in the mountains at Highland Lake, Pa., and part of the time in the country, I resumed my practise. In returning to work I never regarded the weather or the night air, but I had great regard to my breathing, always careful to breathe through the nostrils, especially if the weather was cold or damp.

Three things I find to be very important in treating patients with pulmonary troubles, that is, food, sleep and air. There is a certain amount of indifference manifested in many patients suffering from lung diseases. To overcome this indifference is of prime importance. We ought to impress upon the patient that no friend or relative or physician can effect a cure but the patient himself must do his own eating, sleeping and breathing. To counteract the waste let us insist on plenty of water, hot or cold, a clean stomach and plenty of good food to supply nutrition to the affected parts, and sleep enough to rest every organ.

Air is all important, good air, mountain air, Arizona air, air all the time and all over, robed or nude. Expiration is as essential as inspiration. If the patients can seek a genial climate without homesickness or impoverishment encourage them to do so, but if they cannot leave home, then let them learn to imitate the breathing in different localities, by gymnastic exercises, regular trained breathing through the nostrils, or through an unmedicated respirometer, remembering that as "Eternal vigilance is the price of liberty," so external exercise and breathing is the price of health.

T. E. ROBERTS, M.D.: I rise because I want some information, especially from these surgeons who come from climatic localities. What is the length of time a patient should remain in a country after apparent recovery? is a question I am sure interests us who live in Chicago and all the large cities. How long, in the experience of these physicians, is it best for the patient to remain there after apparent recovery? I have seen two or three cases

which have taught me I think some lessons which I will never forget. I have two who went to Colorado, apparently got well. The physicians there wanted them to stay, but the patients were bound to come back again, and they went right in the wrong direction. I had another case which went to Phœnix and got apparently well, and was a healthy looking woman when she returned to the vicinity of Chicago, because she was expecting the arrival of a little one. The child died and she went back to Phœnix, where she died about two months ago.

W. L. WOODRUFF, M.D.: As to the time of patient's staying in this climate. In the first stage I should say two years after apparent recovery is little time enough; in the second and third stages they have no business to ever leave.

H. KNOX STEWART, M.D.: I am a Methodist and we nowadays frequently sing, "Let a little sunshine in," but in the matter of tuberculosis I am not a high-potency advocate of sunshine, but would prefer it in the crude state and in massive doses. In fact, as Dr. Woodruff suggests, I will take my sunshine straight in other cases as well as lung troubles of any sort or kind. I believe in sunshine and pure air and pure water, and think these three ingredients make a chemical combination valuable to have handy in emergencies and hard to do without in any case. I would like to ask a question of the gentlemen representing the districts where climate is the desideratum. How long should a patient remain in this climate to be able to leave it with perfect safety? Do they not have to remain in such localities during the natural period of their lives?

I received a letter a short time ago from Edna, New Mex., in the Pecos Valley, where they write me they have out of 365 days 300 bright sunshiny days with the mercury ranging from 80 to 120. No water except by irrigation; no (or very few) people except those suffering with some form of lung trouble, but getting well in this climate. This seems like a fairy tale to one living and practising medicine for over 30 years in the climate of Philadelphia; but Dr. Woodruff says at Phœnix, Ariz., they have 360 sunshiny days out of the 365 days in the year. Now, the query with me is, can patients living and being cured by the change to such climate ever with safety leave such a climate to return to this or any changeable climate?

Can we not institute sanitariums with plenty of chance for sunshine and fresh air and help in our own localities those who cannot see a clear way to go to warmer sunshiny climates?

A. M. LINN, M.D.: In this discussion one very important means of prevention has been overlooked, and that is systematic lung development or lung gymnastics. It is a significant fact that singers and speakers rarely have consumption. The reason to my mind lies in the fact that they use their lungs. They breathe properly and exercise the lungs in the effort of singing and speaking. The trite illustration of the muscular arm of the blacksmith is applicable as an example of benefit in lung exercise. One's cubic

lung capacity is properly a measure of one's vitality. It is a measure of one's ability to aerate the blood, of one's ability to resist disease. If the lungs are well expanded and inflated in the process of breathing, the residual air is less in quantity and is more frequently changed for pure air. By the same token the blood is better supplied with the life-giving oxygen and exhales to greater degree the poisonous products of respiration. Proper exercise of the lungs gives greater lung capacity. Few of us are aware to what extent me may increase our breathing space. Each additional inch in stature above 5 feet entitles one to about 8 additional cubic inches of lung space. My height of 5 ft. 8 inches entitles me to 240 cubic inches of breathing space. By training through a year's time I am able to inhale 280 cubic inches of air. That 40 inches additional capacity is very valuable to me. It adds to my ability to aerate my blood and means so much added ability to resist disease.

When patients with contracted chests and pale anemic faces apply to me for relief from suspicious chest symptoms, I think I do them a favor by sending them to the physical director of our Y. M. C. A., with which I have the honor to be connected in an official way; or if ladies, to the Y. W. C. A. for the same reason.

In no sphere is the trite saying, "An ounce of prevention"—so applicable as in the case of threatened lung necrosis. When once tuberculosis is established it is a constant menace to life. It then becomes a ceaseless struggle between the disease and vital powers. I believe Nature's cures are the best ones. If we aid the patient with such information as will contribute to Nature's efforts to ward off a threatened phthisis we will have rendered a much greater service than to enlist the measure of our skill in a doubtful effort when once the disease is established.

G. J. Jones, M.D.: I was not aware, until now, that, to any great extent, the study of this disease was considered a specialty. If there is anything in the practise of medicine that the general practitioner ought to know, it is this very thing, or these things connected with tuberculosis. Ten per cent. of the deaths in the city of Cleveland are from tuberculosis, and the disease is on the increase. There is no question about it, and I think the statistics of the country carry out the same rule of proportion. Is there anything in the practise of medicine that can be learned any easier than the diagnosis of pulmonary diseases? It does not require any elabrate machinery. The ears and the hands are all that are required. It is true that the examination of the sputum must be confined to certain specialists. That is entirely outside of the sphere of the general practitioner. I find in my examinations that in referring sputum to various ones there is often a difference of opinion, and it is not always the first examination that results in a satisfactory report. I have sent sputum to a specialist to be examined and received a report that there were no tubercular bacilli found. Not satisfied with the report, I have sent again with the same result, and yet again, and on the third examination the specialist reported that he found them. The general practitioner cannot find time to do this if it takes the specialist so long to get definite results.

Treatment of Typhoid Fever.

By George B. Peck, M.D.

The following statements concerning the management of persons whose system the typhoid bacillus is ravaging is based upon reports consecutively received from 250 members of the American Institute of Homœopathy residing in most of the States and Territories from Maine to Alaska and Canada to Florida, including those several localities. Reports from Drs. Oscar Hansen of Copenhagen, Theodore Kafka of Carlsbad and Frederic Delosea of Frankfort are also counted in therewith.

In every thousand prescriptions made for an ordinary case of enteric fever at least 202 are bryonia, 176 baptisia, 172 rhus toxicodendron, 121 arsenicum album, 78 gelsemium, 53 belladonna, 16 hyoscyamus, 12 each aconitum napellus and mercurius, 11 phosphorus, 9 phosphoricum acidum, 6 mercurius solubilis, 5 each arnica, china, ferrum phosphoricum, kali phosphoricum, lachesis, muriaticum acidum, nux vomica, sulphur, terebinthina and veratrum viride; 4 kali muriaticum, 3 each mercurius corrosivus, opium and pulsatilla; 2 each apis, ipecacuanha, lycopodium, nitricum acidum and stramonium; 1 each arsenicum iodatum, arum triphyllum, calcarea carbonica, carbo vegetabilis, chamomilla, croton tiglium, cuprum arsenicosum, eucalyptus, guaiacol, ignatia, kali sulphuricum, mercurius iodatus navus, natrum muriaticum, natrum sulphuricum, psorinum, pyrogenium (?) and secale cornutum.

When manifestations of cerebral disturbance are unusually prominent in every thousand prescriptions, hyoscyamus will be administered at least 182 times, belladonna 179 times, stramonium 72, baptisia 46, rhus toxicodendron 44, gelsemium 43, bryonia 40, opium 31, helleborus niger 16, agaricus muscarius 10, arsenicum album and hyoscine hydrobromate each 9, phosphoricum acidum 8, veratrum viride 7, kali phosphoricum and lachesis each 6, apis, arnica, phosphorus and zincum each 5, coffea 4, aconitum napellus, agaricin, ferrum phosphoricum, glonoin, muriaticum acidum and passiflora incarnata each 3; atropinum, cicuta virosa, cimcifuga and cocculus

each 2; arum triphyllum, chininum arsenicosum, conium, cuprum aceticum, hyoscine undesignated, ignatia, magnesia phosphorica, morphinum, nux vomica, petroleum, phenacetin, potassium bromide, strychnium, veratrum undesignated and zinc oxide each 1.

When the diarrheic symptoms are the more pronounced, in each thousand prescriptions it will be found that arsenicum album has been written for at least 17 times, rhus toxicodendron 101, phosphoricum acidum 48, mercurius corrosivus 37, baptisia 36, mercurius 29, china 26, muriaticum acidum 25, bryonia 24, podophyllum 22, nitricum acidum 17, veratrum album 16, mercurius solubilis 14, cuprum arsenicosum and phosphorus each 13, carbo vegetabilis 12, sulphur and terebinthina each 10, ipecacuanha 8, arnica 6, aloes hyosycamus and kali phosphoricum each 5, nux vomica and pulsatilla each 4, lachesis 3, arsenicum iodatum, calcarea phosphorica, cantharis, chamomilla, colchicum, croton tiglium, echinacea, eucalyptus, gelsemium, gumma gutti, kali muriaticum, leptandra, opium, sulphuricum acidum and veratrum viride each 2; apis, belladonna, bismuth, bismuth subgallate, calcarea carbonica, calcarea sulphuric, camphora, cantharis, colocynthis, cuprum, euonymin, ferrum, ferrum aceticum, geranium maculatum, guaco, hamamelis, jatropha curcas, kali arseniosum, lycopodium, magnesia phosphorica, mercurius cyanatus, "mineral acids," morphinum, natrum sulphuricum, salol, secale cornutum, sweet oil, zincum, zinc sulphocarbolate and a combination tablet of morphinum 2x and mercurius solubilis 2x each by 1. One correspondent remarked: "I so seldom get diarrhea I can hardly say what I give."

For the relief of intestinal hemorrhage in every thousand prescriptions it will be found that the following drugs have been selected at least: Hamamelis 116 times, nitricum acidum 97, terebinthina 62, ipecacuanha 40, secale cornutum 38, china 36, muriaticum acidum 23, phosphorus 19, arsenicum album 17, geranium maculatum 12, erigeron and phosphoricum acidum each 10, carbo vegetabilis and millefolium each 8, ferrum phosphoricum, lachesis, mercurius corrosivus and rhus toxicodendron each 7, arnica and gallicum acidum each 6, aconitum napellus, belladonna and hydrastis each 4, morphinum and sulphuricum acidum each 3, cinnamomum, crocus, ferrum aceticum, gelsemium, kali phosphoricum, thlapsi bursa pastoris and trillium pendulum each 2, alum (?), alumen, alumina, apis, argentum nitricum, baptisia, bismuth subnitras, bryonia, camphora, cantharis, chininum arsenicosum, ergotole, eucalyptus, ferri sulphas, guaiacum, hydrastine hydrochlorate, lemon juice, melilotus, mercurius, mercurius cyanotus, mercurius solubilis, "mineral acids," naja, natrum

muriaticum, nitromuriatic acid, opium, phosphomuriate of quinine, plumbum, rhus aromatica, sepia, sulphur, tannin, tinctura ferri, veratrum album and veratrum viride each 1. One correspondent remarks he has no special remedies. No true Homœopath has, but he prescribes one drug oftener than another, as the merest glance at his medicine closet would demonstrate.

Adjuvant treatment for the relief of intestinal hemorrhage is *not* resorted to by 103 of my correspondents; 26 left the appropriate space for reply *blank,* which legitimizes the conclusion their habit is similar; 3 rarely employ such measures, while 108 responded affirmatively. The devices of these are numerous, some mentioning a number. Enemata of witch hazel are used by 15, turpentine stupes by 13, ice bags by 12, one of whom intimated he had forsaken the habit; "cold to abdomen" by as many, though one failed to see any benefit from it; morphine by 10, "cold compresses" by 8, the cold pack by 6, enemata of hot water and of dilute nitric acid each by 5, of starch water by as many (one of whom adds, however, a little hamamelis), and of starch with some preparation of opium by an equal number; intravenous injections of normal salt solution by 4, enemata of normal salt solution, cold enemata compresses of hamamelis and water, which in one case at least was cold, ice coil to abdomen, ice over abdomen and ice pack each by 3; enemata of tannic acid, of geranium, of turpentine and hot water, and of unspecified material, hot compresses, cool compresses, cold sponging, normal salt solution hypodermically, ice over the right iliac fossa, hot water and chips of ice each by 2; enemata of ice water, of lemon juice and ice water, of phosphoric acid and water, of slippery elm water, of chloroform, of hot water, of hot water and boracic acid, of "oil, milk and witch hazel," of hot salt water, of erigon solution, of sweet oil, of hot antiseptics, of warm undesignated substance, warm fomentations, hot sponge bath, tepid applications, ice water compress, ice poultice (mixed with bran), ice per rectum, ice internally and externally, abdominal compresses, compress of calendula, compress of cajeput oil and alcohol, cold alcohol and water compresses, "cold compresses of vinegar and water, turpentine and alcohol externally," turpentine internally, slippery elm tea, astringents, ferri sulphas, acidum gallicum, opiates, cold drinks, hot drinks, ergotole hypodermically, "ergot injected into the bowels," "ergotine," suppository of tannin and morphia, flushing the colon, antiphlogistine plaster, "cold pack and infusion of normal salt solution (which saved patient for a time, but death ensued from weakness)," opium and lead, one pint of hot water with a few drops of turpentine or a teaspoonful of ham-

amelis (mode of administration unspecified), each by 1. Single correspondents remark as follows: "Have never had this complication in a case treated from its commencement;" "intravenous saline injections discarded within a year for subcutaneous injections;" "suppositories of tannin and morphia with a compress rather tight across the bowels of cold alcohol—it doesn't generally check though;" if the case is bad enough for hemorrhage it will die, if not from that then from some other complication."

Only three instances of operation for the relief of perforation were reported. In one case the peritoneum was twice washed, but death ensued. Another was reported by Edward R. Snader, M.D., of Philadelphia as follows: "Some years ago I saw in consultation a case of perforation of the bowel during the second week of typhoid fever, which I advised to be operated upon. It was an exceedingly mild case, so much so as to be somewhat obscure in diagnosis, that is, so far as the determining cause of the perforation was concerned. It seemed possible that the case might really be an obscure, suddenly perforating appendicitis. The condition of the patient prior to operation was most favorable, the case having run an almost afebrile course, the heart strong and the patient, an adult male, naturally robust. Death seemed inevitable without surgery, and I therefore recommended abdominal section. I believe I was thus the first to recommend operation for perforation in this country; at least I had never heard, read nor dreamed of the operation for that purpose prior to that time. At the section was found a perforation that would easily have admitted the end of a lead-pencil, an extensively ulcerated Peyer's patch. Engorged Peyer's glands could be plainly seen through the mucous membrane and some appeared so thin that they too seemed ready to burst. From the operation proper the patient made a good recovery, but he perished two weeks later from sudden, overwhelming cardiac failure, with high temperature, maniacal delirium and vomiting. These symptoms when later heard of (for I retired after the operation and the allopathic surgeon attended the case) I believed to have been due to a septic pericarditis with effusion and possibly another surgical procedure might have saved the patient's life. This occurred before the operation had come to be spoken of as a rational procedure in cases of perforation. In the same kind of a case, *i. e.*, one in which the typhoid state was not pronounced, I should unhesitatingly recommend the opening of the abdomen and the closing of the perforation, but in the presence of marked tissue degeneration I should oppose the operation as being worse than useless. The case was not reported because of its fatal

termination, I presume. At any rate I did not feel like making the case public because it was not my own. The surgeon who did the operation and who examined the wound prior to the end to ascertain if a septic peritonitis was the cause of the severe symptoms, stated that the opening caused by the operation was healed and there was nothing whatever in the abdomen to account for the serious condition of affairs at the close of the patient's life. The case, so far as the operation was concerned, was a success, although the patient died, but not from the perforation nor the operation."

The third was reported by a gentleman who, practising surgery almost exclusively, has met but one case officially in the last five years. This was diagnosed appendicitis and he operated. On opening the peritoneum a portion of the intestine came into view with round, purplish thickening. He replaced that at once and drew forth another portion with more round thickenings (Peyer's patches?). He decided the case was typhoid fever and would have sewed up the wound but that the symptoms were decidedly those of appendicitis. After hesitating a few seconds he decided that a careful examination of the appendix would do no more harm than had already been wrought. He found it swollen, purplish, evidently diseased and bound with new adhesions. He removed the appendix and found the mucosa destroyed, the organ dilated and full of pus and gangrenous detritus. The patient died on the second day with unquestionable indications of typhoid perforation and shock. Conclusions: the patient was in a fair way to die of appendicitis, if not also of typhoid fever; did not the ether, shock of operation, etc., lower vitality so much as to cause fatal perforation? Is operative interference ever justifiable in typhoid?

Two hundred and sixteen practitioners are accustomed to order milk for their typhoid patients, but quite a number of them prefix the adjectives hot, cold, sterilized, peptonized, salted, etc., 61 malted milk, 43 beef broth, 33 mutton broth, 27 broths, 23 liquid diet, 21 buttermilk, 17 grape juice, 15 bovinine, as many rice water and still an equal number beef juice, 12 liquid peptonoids, 11 koumyss and as many beef extracts, 10 barley water and an equal number fruit juices, 9 chicken broth and as many ice-cream, one of whom specifies vanilla, groups of 8 beef peptonoids, orange juice, light soups, imperial granum, rice, egg albumen with water and a milk diet respectively; groups of 7, panopeptone, whey and milk with lime water; 6, Eskay's food; groups of 5, lamb broth, watermelon, Mellin's food, eggnog, oatmeal gruel (some specified strained) and hot water with sweet cream occasionally (though one of this group directs the water

shall *not* be hot); groups of 4, raw eggs, lemonade, soft boiled eggs, oyster broth and toast water; various triplets, matzoon, junket, fruit tea, gelatine, orangeade, lime water, custard and "rarely milk"; sundry couples, flour gruel, ginger ale, milk and Vichy, milk with lime water and egg albumen, no milk, blanc mange, sago, tapioca, cocoa, coffee, crust coffee, Horlick's food, clam broth, grapes, lemon juice, no beef-tea and no solid food for eight days after the fever; single practitioners, hot water, boiled water, milkine, artificial milk foods, clabber, crackers, rice gruel, corn meal gruel, proprietary baby foods, farinaceous diet if possible, somatose, protonuclein, calf-foot jelly, white of egg and milk, eggs, bovinine with grape juice, lime juice, cereal coffee, wheat tea, sour cider, zweibach, blackberries, peaches, baked apples if no diarrhea, baked apples anyway, blackberry juice, pea soup, gum arabic water, no beef extracts, no fruit juices, no tea, no coffee, principal diet cracked ice and water, "nothing but pure cold water and nothing else," no ice water or cracked ice, cold water only for three or four days and veal bone soup if constipated. Some direct that the drinking water be sterilized, some do not urge nourishment at the beginning, and some direct very little food of any kind as long as there is fever. The minimum time allowed to elapse between feedings is one hour by 2 practitioners, two hours by 72, three hours by 68, four hours by 12, six hours by 1 and eight hours by 2. One says "feed sparingly," another "little and often," and a third "not too often nor too much." One doctor reports "baked white potato and buttermilk was the only diet in two cases that did well; one had experienced a slight hemorrhage before coming under my care; nothing seemed to agree with his stomach, potato was craved and allowed, the patient began to improve and remarked, "I tell you, Doctor, there is nothing like potato for an Irishman."

Alcohol is *not* administered internally to typhoid fever patients by 100 of my correspondents, rarely by 93 and more frequently by 55. One gentleman remarked he gave it once and has ever since regretted it, another that he gave the murderous stuff for thirteen years while practising allopathy, and a third that in no disease is alcohol more strongly contraindicated unless it be in cholera infantum. Whisky is prescribed by 56, brandy by 52, eggnog by 15, milk punch by 11, champagne by 7, wine, claret and "whisky and milk" each by 3; alcohol in milk, port wine, hot sling, whey and alcohol each by 2; sherry, "mild wines," blackberry brandy (in white of eggs and water), brandy and milk, ale, only in form of wine whey, California Catawba wine and "rum in milk if the respiratory organs are involved" each by 1. An indication for the use of stimulants is stated

to be cardiac weakness by 40, collapse by 31, extreme prostration by 17, general weakness by 15, turn of fever by 14, convalescence by 6, excessive delirium, gastric irritability and after hemorrhage each by 2; severe diarrhea, subnormal temperature, hyperpyrexia, insomnia and to prevent undue waste of tissue each by 1.

Sponge baths are recommended by 228 practitioners, rarely by 7, and not at all by an equal number. One doctor naïvely admits he occasionally permits one for cleanliness. Tepid water is ordered by 53, alcohol and water by 45 (one specifying it shall be 85°, two 98°, a fourth hot, a fifth cold, a sixth tepid and a seventh warm), water and bicarbonate of soda by 26 (four saying it shall be hot, as many warm and one cold), cool water by 24, hot water by 19 (one following it by an alcohol rub), cold water by 15, cider vinegar and water by 9, a cold saline bath by 5, aqua ammonia and water by 4, one of whom says it must be hot, soap and water also by 4, one following it with alcohol and water half and half; water 100° again by 4, a cool saline bath and an alcohol rub each by 3; ice-water, warm salt and water, hot alcohol sponge full strength, alcohol sponge at night and water between 60° and 70° F. (one adding ammonia) each by 2; an alcohol sponge twice a day, quinine water, hyposulphite of soda and water, lukewarm water, hamamelis and alcohol, warm water and aromatic vinegar, alcohol with salt and temperate water and hot normal salt solution each by 1. Some merely indicated preferred temperature thus: 24 simply say warm, 15 as desired, 5 as cool as the patient will allow, 3 temperature of the body, 1 each "100° dropping down to 88°" and "lukewarm reducing to ice water." One doctor directs the water to be of agreeable temperature and it must not be wiped off but allowed to evaporate—this to be repeated at frequent intervals, even every hour, and lasting from ten to twenty-five minutes. High temperature is deemed sufficient indication by 34, cleanliness and comfort by 29, extreme restlessness by 22, a temperature of 102° F. by 14, a temperature over 103° by 11, when the fever is highest by 10, a dry skin by 3, a dry and hot skin, insomnia, delirium, copious perspiration and a desire to keep the temcarnata each 3; atropinum, cicuta virosa, cimicifuga and cocculus and alcohol when the temperature reaches 104°. As to repetition, 36 order them frequently, 33 daily, 12 every two to four hours, 11 "twice a day," as many from two to four times a day, 10 every three hours, 9 every two hours, 5 every three to six hours, as many every three to four, 4 two to six baths daily, as many night and morning, and again as many only at night; couples respectively every six hours,

sometimes every hour, three times a day and every hour when the temperature is 104°; a solitary doctor one every third day.

Tub baths are *never* ordered for typhoid patients by 225 practitioners, rarely by 12, occasionally by 3 and quite frequently by 10. One uses them for children only, another for restlessness, two to reduce the temperature and three for high temperature, one of whom says the water must be at 80°, and another that it shall be "lukewarm decreasing to cold." One orders immersion in cool water for ten minutes if the temperature goes above 104½°, another says that for a temperature of 103° the bath should be one degree lower, while a third when he finds a fever of 103° commences with water at that temperature but reduces it to 77°. Referring to the temperature of the bath only two practitioners say it should be as hot as can be borne, as many that it should be 100°, and single physicians "uncomfortably cool," agreeably cool, tepid, 76°, 80° cooling down to 60°, and "a few degrees below that of the body" respectively. One doctor orders a "tub bath daily until the patient gets so weak it seems to exhaust him."

As to very cold or iced water and ice 202 physicians state they do not use them. One of these significantly added, "I have, however." It is to be presumed he became wiser through sad experience. Another declares "Ice and very cold water are pernicious." A third reports that once he indulged in this sort of thing by means of a wet sheet for a temperature of 108°, other bed covering having been removed. The temperature was reduced and the patient apparently convalescent for a few days, when perforation and death ensued. A fourth says he practises in the country and if a case should die they would think I killed him, and I myself might feel a little guilty. A fifth uses "iced water by direct application if the patient does not or is too stupid to protest!" A sixth remarks: "Heat to heat and cold to cold is the only Homœopathic law of cure." More generally 12 use the cold pack, 6 cold water compresses, 5 the ice cap, as many the ice water pack, 4 the rubber coil on abdomen, as many ice cold applications to the head (one adding the body also), 3 ice water compresses, as many cracked ice in rubber bags or tubes and 2 in tubes only; single practitioners ice bags on head and neck, cold sponge baths frequently repeated, cold half-pack every three minutes for twenty minutes, cold saline pack, ice pack, cold compresses, cold water on wrists and cold water on chests and hands. One remarks that he has used the ice coil to a limited extent, but is doubtful as to its efficacy. As for indication 1 finds it in a bloated

condition, another in a temperature of 105°, 2 in 104°, 2 in 102° and 2 in a high temperature.

Enemata are not ordered by 56, rarely by 48, occasionally by 5, more or less by 140, while one acknowledges he did thus use beef tea for a few days, but it did more harm than good. As for their purpose, "to empty the lower bowel" is specified by 76, great constipation by 56, for nourishment by 16, for diarrhea by 5, for tympanites and to soothe the bowel each by 4; to reduce the temperature by 3, to allay pain and for cleanliness each by 2; to relieve constipation of forty-eight hours, to reduce thirst, to please the friends, for flatulence and for nervousness with restlessness and diarrhea 1 each. As to material, 56 use warm water, 16 soap and water, 9 glycerine and water, 8 hot saline solution, one of whom adds the words "for collapse;" 7 hot water, 6 salt and water, one of whom directs it to be cool and another cold; 6 normal salt solution, one ordering it warm; 6 turpentine enemata for carrying off gas, 4 warm water and olive oil, 4 warm water and starch (into which two also pour laudanum) for diarrhea, groups of 3 each respectively cool water, milk, flaxseed water, flaxseed tea, hot water containing boracic acid, peptonized milk (to which two added bovinine; couples respectively molasses and water, beef extracts, milk and egg, beef broth and olive oil followed by water; single practitioners, "starch and laudanum to relieve tenesmus," "starch for tenesmus," starch water for irritation, ice water, creolin enema, milk and water with bovinine, cold water, glycerine suppositories, turpentine, albumenized water for constipation, slightly carbolized water, whisky and egg albumen, milk with egg and whisky, warm water with milk and salt or chicken broth, olive or sweet or cottonseed oil, yolk of egg with turpentine for tympanites, hot antiseptic enema, "slightly antiseptic to clean the lower bowel," "either water or milk to maintain vascular supply and for nourishment egg with milk and starch." One doctor says enemata are dangerous after the first week, another orders them every three days, still another daily, while a fourth determines whether they shall be hot or cold by the temperature of the body.

The colon is *not flushed* by 187 of my corespondents, one remarked: "There never is an indication to flush the colon because the colon is not an old piece of rubber tubing or a sewer pipe. I treat my patients as if they were delicate complex physiological organisms." It is flushed *rarely* by 26 and more or less habitually by 37, one of whom states he does it only when first called to the case. Hot water is used by 10 (by one "medicated"), warm water by 5,

normal salt solution when patient is very low by 2, cool water, turpentine and water, boracic acid solution, warm water and glycerine each by 1. High temperature is considered an indication by 6, one of whom adds "in the the early stage;" severe diarrhea by 4 (one of whom says the water must be from 95° to 100°), severe tympanites also by 4, offensive stools by 3, temperature over 103° by 2 (one of whom uses tepid water, the other cold water beginning at 40° and reducing it to 30°), hemorrhage also by 2; three or more dejections, yellow ochre stools which are frequent and painful, constipation, delirium, a temperature of 104° long continued, "a temperature stationary despite the indicated remedy" each by 1. Furthermore, 1 flushes every twenty-four hours, 1 every twelve hours, 1 to stimulate the kidneys and 1 in last stages when there is danger from hardened feces. Finally, one simply states he uses water from 80° to 90°, another resorts to flushing during the first week only and then with normal salt solution or sterile water, while another always orders it unless it be contraindicated by intestinal hemorrhage.

Intestinal antisepsis is not practised by 206 of my correspondents, one of which declares "There is no such thing," and another quite as emphatically, "It can't be did!" It is attempted rarely by 17, and quite generally by 23. To secure this condition listerine is administered by 5, one of whom specifies it as an enema; salol also by 5, antiseptic enemata by 3, one saying they must be hot; solution of boracic acid also by 3, two using it per rectum; guaiacol, the Woodbridge treatment and pix creosol tablets with hot water each by 2; pix creosol by mouth, pix creosol 3x, echinacea or listerine by mouth, turpentine, iodoform 3x internally, hydrogen peroxide, eucalyptus, eucalyptol, oxgall solution, enema of water containing hydrogen peroxide, drinking water containing a little hydrogen peroxide, phenolsodique enemata, borax solution, formalin enemata, Harvey's typhoid tablet No. 2 every four hours, zinc carbolate, borolyptol, "eucalyptus tincture for putrid cases, douches etc.," enemata of pasturine, hydrogen peroxide of listerine enemata rarely, each by 1. Sulphocarbolate of zinc is used by 3, one giving diarrhea as its indication, tablets containing the sulphocarbolates of calcium, sodium and zinc by 2, and hydrogen also by 2, one specifying pus in the stool as its indication.

Most of my correspondents have insisted upon the importance of rest and quietude. Precisely how tub baths and assorted "packs" contribute thereto I am unable to comprehend. Electricity is recommended "if the nervous system is in a bad, low condition." Three were found who when called early evacuate the bowels with some

cathartic to clear them of any food waste they might contain and which by fermentation might cause trouble. One "almost literally pours water unto the patient, giving him quarts during the day." Another washes the mouth when foul with listerine, hydrogen peroxid, zymocid or borolyptol. A third exhibits in the beginning refined sulphur to light physiological action. A fourth for tympanitic conditions uses a cotton pack wet with whisky and sprinkled with common salt. A fifth occasionally applies dry heat to the abdomen. A sixth generally uses corn sweats every day or two, each one lasting an hour. A seventh always gives protoneuclein, grs. ix., every three hours until the temperature is below 102°, afterwards grs. iii. every six hours. An eighth always keeps warm water and aromatic vinegar on the wrists and abdomen. An ex-president has found imported ginger very acceptable and beneficial in recent cases. One of us common doctors sometimes uses a cold water rubber bag to relieve restlessness. Another after the fever has gone permits little children well enough to beg for food to eat one or two wintergreen lozenges a day. A third in desperate cases resorts to psorinum.

The method of treatment pursued by one correspondent not included in the 250 is so unique as is also his statement of alleged facts, I venture to give his reply quite in detail: "Total abstinence from food until the fever subsides; repeated large warm water enemas, frequent tepid baths. Have never observed cerebral symptoms after that treatment. Large enemas to thoroughly cleanse the bowels; diarrhea shows an effort to rid the bowels of offensive matter." In reply to the query concerning relief of intestinal hemorrhage he says: "Hot fomentations over the lumbar region, the surface of the body being carefully warmed and especially the feet," but he immediately adds he "never had a case proceed to hemorrhage, never had perforation, never had any sequelæ. No feeding at all. One case last summer was substantially without food for five weeks. Did not lose much flesh. Entire recovery. Tried two or three times to feed him, but always caused return of fever until the last time. Never uses alcohols internally or externally nor puts drugs in the bathing water. Tub baths of 90° of five minutes' duration may be repeated daily, but not oftener as a rule." His reason for extensive use of enemata is "a filthy colon and an obstructed canal are the chief conditions for typhoid. The presence of this disorder is sufficient indication for flushing the colon at 100°. I occasionally dissolve a little boracic acid in the enemas. Rest, perfect cleanliness and abstinence from food in order to secure the rest has proved all-sufficient in my hands."

I have omitted statements relative to the success of treatment employed tendered by quite a number of my correspondents, but they will be utilized elsewhere. The methods above summarized, however, will be pronounced by each reader good, indifferent and bad according to his bias. Note, however, that in thirteen cities during the years 1890-95 allopathic practitioners reported 14,313 cases with 3,229 deaths, or a mortality of 22.56 per cent., while in the same cities during the same period of time the alleged Homœopaths treated 2,082 cases and lost 334, or 16.05 per cent. While this indicates the saving of six additional lives in every 100 cases and sixty-five in every 1,000, I can but consider the margin discreditably small and venture to suggest that if we all devoted more time and attention to the established, immutable facts of that science (art, if you prefer) we profess to be masters of and less to the contradictory, chimerical, evanescent theories of the dominant school, the difference in the death-rates would be greater and our standing as a school and as practitioners more creditable and more assured. One correspondent writes: "I would like to end by saying that any physician who has a patient suffering from typhoid fever in bed over twenty-one days owes that patient an apology. By pursuing the above methods" (quite free from allopathic procedures, P.) "for the last seventeen years I have had to apologize to but two patients, each of whom spent twenty-eight days in bed. I regard a death from enteric fever as a blot upon the medical profession." Compare this with the statement of an eminent allopathic authority: "Typhoid fever is a self-limited disease *tending to recovery!*"

NOTE.—To secure percentages for convenient comparison in the four paragraphs relating to remedies strike out the right-hand figure; in all other cases multiply by four and strike off as before, remembering always to increase the unit figure left standing by one should the number erased be five or more.

The following epitome of treatment for typhoid fever by Edward Blake, M.D., of Hyde Park, England, arrived in New York on the second day of the Institute's session. The four remedies he finds most frequently indicated are arsenicum album, mercurius corrosivus, baptisia and acidum muriaticum. Belladonna, helleborus niger, phenol, and hyoscyamus are demanded by cerebral symptoms and arsenicum album, veratrum album and gummi gutti (gurgling in iliac fossa with pain) for diarrheic. For the relief of intestinal hemorrhage he has found cuprum sulphuricum sufficient, although as an adjuvant he might inject ergotin, but never has done so. His dietary is water, whey, milk, egg beaten with water, fruit juice. He diets the patient for six to twelve months after; no cellulose, no cellular tissue, no débris, no refuse of any kind. He administers food every two hours. "Having been clinical clerk to the great Sir William Jenner, I let all my patients die drunk. I have been through four severe epidemics. I have repeatedly taken off a pint of spirit given by my predecessor per diem to a desperate case. I have never lost a case." He authorizes hot water sponging twice a day. He does *not* use tub baths, or very cold or iced water, or enemata. Neither does he flush the colon or practise intestinal antiseptics, save by administering arsenicum and mercurius in Homœopathic doses.

REPORT

OF THE

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Some Military and Public Questions Considered, Besides the Responsibility of Proper Sanitation in the Army of the United States.

By M. O. Terry, M.D.
Ex-Surgeon General, S. N. Y.

It is, perhaps, well known that the military discipline of the United States army is quite strict in reference to criticism. In Article 1, on Military Discipline, Regulations for the Army of the United States, we find in paragraph five that "deliberations or discussions among military men conveying praise or censure, or any mark of approbation, toward others in the military service, and of publications relating to private or personal transactions between officers, are prohibited."

Only those in State or Government service can understand the

peculiarly touchy relations which exist between the medical officer and the commanding one. There is no reason whatever for this strained feeling. The commanding officer would save himself a considerable amount of criticism if he would not attempt to assume responsibilities for which his education has not prepared him. The neglect to carry out suggestions incident to sanitary affairs, the heedless ignoring of requests for the better protection of troops under certain conditions of exposure, the measure of vitality of the men under given marches, subjected to a high or low degree of temperature, the adjustment of food adapted to certain temperatures in different climates are illustrations of some of the questions decided by the commanding officer and pigeon-holed, though definitely presented for affirmative action and regardless of special recommendation by the medical officer.

In the State of New York, during the time when the subject of modifying the code was under consideration, I was told by a brigadier general of the national guard that if we succeeded in securing a separate organization that the medical department would be obliged, so far as those associated with his command were concerned, to obtain quarters elsewhere than in the armory under his control. Think of this lack of fraternal feeling! That a good army cannot exist without an efficient medical corps is admitted throughout the world. A city would become a pest-hole without the intelligent services of a health board, and an individual left to himself in these days without a good medical adviser would, in most instances, eventually become a wreck. The American officer, soldier or guardsman should not forget the dependence which human weakness makes necessary in the enlisted man to always extend the hand of brotherly love to the medical officer who can never infringe upon his rights, but can cooperate and add to his glory by assisting in the performance of his imperative duties.

In order to introduce the subject of proper sanitation in the army of the United States Government and to bring before you a new question for serious deliberation, I wish to read in full a letter written on April 16, 1899, for the *New York Tribune*, by Col. J. D. Emmet, Surgeon of the Fifth Brigade, N. G. of N. Y., as it will be an excellent introduction to the question under consideration.

"*To the Editor of The Tribune.*

"Sir: Recently there fell into my hands a small periodical entitled *The Journal of Public Health*, which announces that it is devoted, among other things, to an agitation for the permanent ap-

pointment of a medical representative in the cabinet of the President of the United States.

"I greatly doubt if many of your readers have heard of this journal, and still more if many have ever given a thought to the remarkably anomalous position in which the profession stands in relation to our government. Among the official advisers of our chief executive are an attorney-general, and a secretary of agriculture, while the medical profession and the public health, far more important because touching the welfare of our citizens more nearly, both individually and collectively than either of these, are ignored. There is indeed a surgeon-general in our army, whose residence is at the capital and who has the quasi distinction of being an appendix—I had almost said appendix vermiformis—of the adjutant-general's department. Without authority (for he is subject to the orders of the secretary of war as expressed by his chief of staff), yet bearing a great responsibility, in time of war he is execrated by the public, who lay at his door all the natural casualties of camp and field. Of the extent of his actual control even over the medical officers in the army, when once they have been assigned on the staffs of general officers, the unhappy condition of our troops before Santiago and on our transports in the war is sufficient evidence.

"The present surgeon-general did his duty to the extent of his power, and sent drugs and other equipments enough, as he has testified, but that was a different thing from getting them to the front. We must not forget that the surgeon-general himself is only a staff officer, and that generals commanding in camp and field do not hold themselves bound to carry out his wishes (unless enforced by a direct order from the secretary of war) if these do not coincide with their own opinions or convenience. Moreover, in the selection of sites for camps I have yet to hear of a single instance where the eligibility of any situation was left to the final decision of the surgeon-general, who of all men, by virtue of his position as chief military surgeon, should pronounce ultimate judgment on such a subject. In time of peace he is practically a nonentity merely doing routine department work, never heard of by the general public except on the few occasions when he makes reports and offers suggestions in regard to the general health of the community, which nobody heeds since they are without authority.

"When we realize that the food we eat, the water we drink, the air we breathe, are not a daily source of pestilence; that the whole country is not yearly swept by terrible epidemics; that so universally

inculcated are the laws of hygiene that even the poorest uneducated citizen cannot plead ignorance; when we realize that all this is due to the constant vigilance and devotion of medical science alone, is it not a shameful absurdity and an anachronism that the sole recognition by the people of the United States of the value of the medical profession consists of one political appointment in the adjutant-general's department? Will the profession ever wake up to a sense of self-respect? Will it ever realize that it has corporate needs as well as corporeal ones? We believe firmly that it will do so eventually, else we would save our words. And here surely is an object worthy of our enthusiasm, worthy of a little unselfish working for the common good.

"As a corporate body of citizens the medical profession has a right to representation in the highest councils of the nation, for to what other body of citizens do the individuals, the cities, the States of this country owe so much? Upon whom are they so dependent for that which makes life possible or living endurable? Are the wheatfields of the West and of Texas, or the Russian thistle, the dredging of harbors and widening of channels, or the internal revenue tax, or even the United States postal service of greater value to the community at large than the absence of universal epidemics of smallpox, typhoid and typhus fever, of yellow fever and Asiatic cholera, of filth and squalor and attendant infant mortality? Yet the farmers have placed a secretary of agriculture at the President's elbow, and there are a secretary of the interior and a postmaster-general in the cabinet.

"The medical profession should be represented by a surgeon-general of the United States, a member of the cabinet, whose appointment ought not to depend upon political patronage, but should be made upon the recommendation of the medical profession, either from the State medical socities separately, or through a convention of delegates from each State society, such convention to be called by the President of the United States, and each set of delegates to be in proportion numerically, to the population of the State represented.

"In time of war the surgeon-general should have absolute authority not only over the medical department, but in all matters affecting directly the health and well-being of the army, subject only to the orders of the commander-in-chief, the President. In time of peace, with a large and efficient department under him, he should be empowered by Congress to safeguard the public health. He and his assistants should constitute a national board of health, with which all State boards should affiliate, while preserving their independence

of action within their own territory. Yet, in all cases of general menace, where two or more States are involved or the safety of the country at large is threatened, the surgeon-general should have the right to enforce efficiency and uniformity of action by the State boards.

"This is what the country needs and what the profession needs. But it will never come to pass unless we make it come to pass. The subject must be constantly agitated by physicians individually, and most of all by the medical press, through whose united efforts, with the valuable support of the general press, alone can the profession be regenerated." "J. D. EMMET, M.D."

"No. 91 Madison Ave., New York City."

The above letter of Col. Emmet's is certainly a very important one for the medical profession so far as the position in the cabinet is concerned and it seems a timely suggestion that the medical profession is entitled to such consideration. Every city has its health board and every seaport its health officer for the prevention of the introduction of diseases into this country. The far-reaching importance of the surveillance of the medical man is almost limitless in reference to the health of our extensive country. In regard to the suggestions made in reference to the selection of a cabinet officer representing the medical profession that is a question for more serious consideration, for the suggestion of Col. Emmet, although made, I believe, thoroughly in the idea of securing the best man for such a position, at the same time it would exclude other schools than the allopathic profession, and if such selection were inevitably made from that profession it would, in accordance with the history of the schools of medicine, be derogatory to the interests of the Homœopathic and the other schools of medicine. Such selection, therefore, could only be made in line with reference to other positions in the cabinet, the President using his prerogative in the selection of the cabinet officer to represent the medical profession. The point, therefore, made by Col. Emmet to call a convention could not be tolerated by this school of medicine for one moment.

The absolute necessity of a medical department distinct by itself under its own direction, the same as any other department of government, was so apparent in the English campaign in Egypt, while the same trouble was experienced in our recent Cuban campaign, that the medical profession in Great Britain united as one man in an appeal to parliament for a medical organization having the same power in its special work as any other department of the government. The result was an act by parliament under which the medical

service is now directed with ample power to carry out all of the details of its work in its own way. The experience of England and the lessons taught in our Cuban campaign enforce with a strong argument of facts the absolute necessity of a new portfolio in the executive cabinet of our government, that of Medical Director-General, with powers clearly defined as in other cabinet positions. This idea, repeatedly urged by leading medical journals, the *Medical Times* being one of the first, has been very ably voiced by Dr. Emmet in the letter I have just read. I differ from Dr. Emmet, however, as I have stated, most positively in the manner in which this new cabinet appointment should be made. Why should the medical profession have any special voice in his selection any more than the army or navy has in the selection of the heads of the departments in the cabinet? This portfolio, like all of the others in the cabinet, should be filled by appointment by the President confirmed by the Senate.

During the Hispano-American War the medical staff officer of the War Department, the surgeon-general, received a continual volley, as it were, of criticism from various sources charging him with neglect and lack of forethought in regard to supplies and sanitary precautions in our various camps and in Spanish territory. Under the circumstances in view of the fact, as I understand it, that the surgeon-general has not had the proper opportunity of carrying out his ideas, it would hardly be fair to acquiesce in the criticism which has arisen when we take into consideration his limited authority. He, however, has been given the credit of assuming great responsibilities which really belong to the War Department. In certain directions his opportunities of exercising not only medical bias but personal preference is very great.

Various rumors existed during our late war in reference to prejudice against surgeons of our school as to their ability to gain admittance into the army. This rumor became so pronounced that it reached the ears of the President and evidently came before his notice in such a marked manner that he was led without suggestion from any one or the mention of a name for the position to send the following telegram through the War Department to the Surgeon-General of the State of New York, then Dr. M. O. Terry:

"WASHINGTON, June 1, 1898.

"The Secretary of War desires to know whether you will accept a commission as chief surgeon of division with the rank of major?"

This he was obliged to decline in view of his responsibilities as Surgeon-General of the State of New York.

I am not able to fix the truth of any criticism in reference to the exclusion of the medical men of our school from the service as there were some in our State who were admitted and, I think, that other States must have had the same good fortune. The rumor and the action of the President, perhaps, will be quite a sufficient lesson for any surgeon-general of the United States army in the future who occupies such an exalted position to deal fairly with a profession whose patronage represents one-third of the taxpayers of this country and a profession, furthermore, in a large proportion of cases, educated in both schools of medicine. No President therefore, can afford to ignore the influence of such a body of medical men and the laymen who employ such physicians and surgeons will not endure for one moment any proscription to their service in our army. The National Guard in four States had last year from the ranks of the Homœopathic school the following surgeon-generals: Gen. Albert H. Phillips, Derby, Conn.; Gen. J. E. Lowes, Dayton, O.; Col. O. S. Runnels, Indianapolis, Ind., and Gen. M. O. Terry, Utica, N. Y. The crack regiment in Chicago has as surgeon Major Charles Adams. Many other positions are filled along the line.

What constitutes proper sanitation in the army under varying conditions and just where to locate neglect becomes a rather mooted question at times. When camps have been selected without consulting the surgeon-general of the army, as in our last war, it is evidence that what was said in reference to the commanding officer deciding questions which came naturally under the head of the medical department is quite as proper of the secretary of war. We believe that the selection of a camp is a matter of such great importance, that a commanding officer, a sanitary engineer and a medical officer should constitute such a board or commission for the proper selection of such camps; that they should be continued in camp as a board and held as such responsible for the sanitary condition.

The questions to be considered by this board are the proper facilities for the temporary tenting of the men, the selection of proper sites for military camps, the enforcement of cleanliness, the examination of water-supply, the purification of it and the question of the amount of water, the drainage, removal of wastes, garbage and the digging of sinks. Also the proper transportation of food, the erection and fitting up of temporary field-hospitals, the means for heating and ventilation, the care of the sick in tent or barrack hospitals,

the sanitation of the battle-field and the care of dead soldiers are other questions to be considered. This bringing together of a commanding officer, an expert engineer and a medical officer at once unites the interests in each department and instead of friction would bring about a general good feeling and a profound sense of responsibility.

It is now a very easy matter to look backward and note the many mistakes made in reference to sanitation in the various camps during our late war. What reference I make to it is not done in any way to criticise the administration, but rather as a lesson for future consideration. What constitutes, for instance, the proper protection of food during transportation is a matter of no little importance. I remember when on a visit to Camp Wyckoff, after the camp had been pronounced one of the most beautiful and best adapted for troops, and had been extolled by medical officers as being the most correct in every detail pertinent to the medical service, on my return from the camp I met a four-mule team hitched to an army wagon, with sideboards, driven by one of our African brethren, containing a load of bread. The dust was several inches deep, the gait of the mules under the lash sufficient to prevent any extensive vision beyond the mules, but the bread was uncovered. I am unable to say whether the commissary officer or the medical officer in this case was to blame. But as the darky preacher said to his hearers in describing hell in a most vivid manner, "Them am facts," and they are presented for your consideration. The serious side of this is that the dust of this region was quite likely to contain the germs of typhoid and, perhaps, others equally deleterious.

One of the most important questions which has arisen in the camps is that in regard to the protection of the sinks from the flies. The industrious character of this winged insect is quite marvelous and I may add its intelligence is a matter of wonder. From the sinks to the kitchen was the regular routine of this ubiquitous insect, not so innocent as he looks by any means.

When we consider the nature of typhoid fever and that the poisonous and contaminating feature is that of a germ and that millions of them exist when once the infection manifests itself in camp; when we consider that many of such germs may be taken by a given fly from the sink of typhoid to the lunch of the soldier or the dinner of the nurse, if not watched, we do not wonder at the spread of this much-dreaded disease and that not only soldiers but many of our self-sacrificing nurses never returned from their field of work.

Just how to protect the soldier in camp relative to the flies is

a problem that has not as yet been fully solved. In all the instructions that we have noticed in reference to the proper policing of sinks we fail to find suggestions on this very important subject. Suggestions are made that sinks be cared for two or three times a day. Such a system carried out in the summer when flies are so abundant would simply lead to universal typhoid in camp. The system practised by Maj. A. H. Briggs of the 65th Regt., N. G., N. Y., at Camp Alger is the only one that I saw during my entire inspection which I thought a proper one. The method used there consisted in having soldiers on duty to see to it that those using the sink should use the shovel always with the dirt at hand. Any neglect on the part of the soldiers lodged the man in the guardhouse.

The subject of the transmission of typhoid germs by flies I am satisfied was not thoroughly appreciated by medical officers in the early part of last summer's campaign, for during the time the commission was inspecting Camp Alger every other cause leading to typhoid was considered. That question never came up and it was only after my inspection of the various camps, at which time I directed the attention of the surgeons to the danger of the transmission of typhoid fever by flies and my reports on them, some of which appeared in the press, that the possible contamination by flies was considered in a serious light.

It may be true, as Ruskin has stated, that the soldier's profession is "the trade of being slain," but surely every provision should be made against the disintegration of an army by the lack of intelligent sanitation.

The question of the water-supply and of its character have been serious ones and they have been considered as such. Many of the regiments at Chickamauga and other camps were properly supplied with filters and strict orders were given out that no one should drink other than filtered water. Notwithstanding this many of the men were reckless, suffered as a consequence, and then contaminated their brothers.

The surface drains in camps are, perhaps, often a source of infection. The system, which, to my mind, excels that of any other, was the one used at Camp Black and introduced by Col. W. E. Spencer, one of my assistants. The drains were sprinkled with chloride of lime and the surface water was conducted into cesspools or reservoirs in a disinfected condition. The second reservoir was often constructed beyond the first one to absorb its contents through the porous earth. At this camp in order to protect the food it was kept constantly covered with burlap saturated with common salt.

A thick solution of chloride of lime was kept at this camp and this was poured over the sinks each morning. This preparation is said to kill the larvæ; at any rate it was efficacious in purifying the atmosphere to a great extent.

Lack of coordination prevents a man from walking in a way indicative of good health; lack of a proper system of sanitation brings before our field of vision pain, disease and even death; when if administered in true military spirit, with an energy indicative of appreciated responsibility, is recompensed by the general good health and a hospital for no other use than possibly a cold, pure water canteen.

In view of the facts presented in this paper I respectfully suggest to this learned and influential association the following resolution:

Resolved, That in the opinion of this association, the oldest national organization in the United States, the condition of the country and its standing among the progressive nations of the world demands for its medical department a position in the cabinet equal in all respects to the other departments of the government.

The Best Methods of Preparing Meats for Hot Climates—Suggestions.

By J. P. Rand, M.D.

Since the recent investigation of the War Department in regard to the character of the beef furnished for the army last summer, it would seem that the best way to solve the problem of prepared foods would be to find out the methods at that time employed and then—not to use them. Surely if there is any confidence to be placed in human testimony the government supply of beef to the soldiers was notoriously bad. As one of the witnesses testified in regard to the "canned roast beef": "Well, sir, it didn't look good when you opened it; and it didn't taste good when you was eating it; and it didn't seem to do you no good after you had eaten it." In other words the three essentials of a square meal were lacking.

This, however, is not wholly in accord with the report of the court that was instituted to investigate the charges of General Miles in regard to the character of the food furnished for the army, but I think it reflects pretty closely the sentiments of the soldiers themselves. Lieut. Warren, who served on Gen. Lawton's staff, said to me, "The findings of the court won't make any difference in the opinions of the men who ate the meat."

While there seems to be some diversity of opinion in regard to the so-called fresh or "refrigerator beef," the weight of evidence would seem to show that the meat was generally good when first taken from the "cooler," but that it quickly spoiled and a large part of it was obliged to be thrown away, though the contract of Swift & Co. stipulated that "the meat should be perfectly good and fit for use 72 hours after being issued from the ship's refrigerator and 24 hours after being issued from the refrigerator buildings on shore." It also appears that the "canned corned beef" and "salt bacon" were uniformly good and palatable while the canned "fresh beef"—or so-called "roast beef"—was neither.

All the packing-houses deny the use of any chemicals upon their refrigerator beef, though freely admitting that sugar, salt, saltpeter,

and boric acid were used in the preservation of pork. Yet the evidence of the witnesses would seem to prove that the refrigerator beef had been "doctored" by somebody, for it was sworn, at the trial, that "it looked queer on the outside and flies would not light on it." Dried meats are not employed to any extent in the army at the present time. They retain to some extent their flavor and nutrition and, if necessity required, could be used for food, but the fiber is tough and indigestible and the best use to which it can be put is into some form of soup.

Now in regard to the "canned roast meat" supplied to the army, there was surely something at fault. The uniform testimony of those who attempted to eat it was that it was "stringy," "pulpy," "nauseating," and one witness (Lieut. Davis) declared that he found maggots in it. To my mind the real trouble was not so much with the *methods* employed to preserve the meat as with the meat itself. The old paradox which describes the methods of packers in general would surely fit here, *viz.*: "They sell all they *can* and *can* all they *can't.*" It is a question in the end whether the product or the buyer is "sold."

Now what was the character of the canned meat furnished the army? It was shown in the evidence that the cattle used for this purpose are mostly broken-down cows. These are selected because they contain the least amount of fat. It is possible, too, though it does not appear in the evidence, that their flesh was less salable, but this we have no right to presume. From these "lean kine" only the forequarters are selected for canning, which are cut into small pieces and boiled from fifteen minutes to a half hour. The water in which the meat is boiled is afterward used in the preparation of soups and meat extracts. The *New York Tribune* of March 13 states editorially [what the report of the Court of Inquiry evidently did not care to publish] that there is an actual loss of 28 per cent. in the weight of the meat subjected to the boiling process. After the meat is boiled the gristle, tendons, etc., are supposed to be removed. Prior to sealing a small quantity of gelatine is added to each can and, in some establishments, a little salt. The cans are then exposed to steam heat from two to three hours at a temperature of 215° to 225° F. When sterilization is complete and the air completely driven out the vent is soldered. The cans that do not collapse after being finally sealed are rejected, the success of the process being determined in that manner. They are then cooled and kept at a low temperature for several days before shipment.

There is surely nothing in the process of canning meat which

should make it unwholesome, but, on the other hand, it is perfectly evident that the character of the meat you take out of a can will depend, to some degree, upon what goes in. There is no such thing as getting "prime roast beef" out of a can filled up with shank, neck and belly pieces, nor can you have the best of flavor when all the juice is taken out to make extracts for the druggists. Think of the contents of the can in which Lieut. Davis found maggots? All of which must have been passed under the argus-eyed inspector, and have been put up and sterilized. Is all the meat sent out by our packers of doubtful character, like that supplied to the government? I think not. In 1890 $10,500,000 worth of fresh meat was sent to England. If the meat had not been delivered sweet it would be hardly a credit to the English taste. But the fact is the ordinary individual or corporation has no sense of honesty or decency in filling contracts for the government. The meats supplied to our army at Santiago but fairly represent the duplicity or inefficiency of the ones who supplied it.

Personally I do not believe that meat caused so much sickness in the army as is generally supposed. We must not forget that the majority of the soldiers were undisciplined and reckless, so far as eating and drinking were concerned; the climate in Cuba was exceedingly bad; the water full of malarious germs and they had no proper facilities for boiling it. The clothing of the soldiers was better fitted for Siberia than a tropical climate and vegetable food was not at all times available. There surely was abundant cause for sickness besides stale meat. Even if the meat had been "chemically preserved" with boracic acid, as some claim, if properly trimmed I do not believe it would do any particular harm.

Chemicals, however, are not necessary to preserve meat. In heat and cold we have our most harmless and efficient germicides. Where transportation by steam is possible the refrigerating apparatus affords the best protection. In times of war no reliance can be placed upon transporting cattle alive, nor would their flesh be fit for food while sweltering under confinement. For remote localities where refrigerators cannot be maintained canned corned beef is undoubtedly best, but in order to have it entirely satisfactory it should be made from the best cut of the best animals, and particular care should be exercised to exclude fat, gristle and fibrous pieces, and to preserve and include the juice and flavor.

Perhaps at some time the cans may be surrounded by a layer of liquefied air and kept cool until their contents are wanted, or it may be that electricity will take the place of heat in sterilization.

Until something better is known, however, let us stick to our present methods, insisting on three things as necessary by the light of experience:

1. That the animals slaughtered shall be properly inspected and that this inspection be so continued that it will be impossible for condemned meat to be smuggled into the cans (which the Court of Inquiry found out was not the case last summer, there being no law to compel the inspector to follow the meat condemned and see that it was not used for food). Let me say in passing that, to me, this fact explains the whole trouble with the meat supplied to the army.

2. That meat selected for canning should be the *best* the creature affords, not the poorest.

3. That sterilization should be thorough and the cans perfect, every one being officially dated and stamped with the name of the dealer.

A Department of Medicine in the Cabinet.

By Edward Beecher Hooker, M.D.

The President of the United States and his cabinet are the chief executive officers of the nation. It is their duty to support the Constitution and to carry into execution the laws passed by Congress. In the administration of the tasks imposed upon them by the Constitution and by Congress they shape the policy of the country and by their action the relation of this country to other countries is determined, be it amicable or warlike, within certain bounds. The welfare of the country is largely in their hands and its prosperity depends in a measure on the proper performance of their duties.

The President is rightly held responsible for the acts of the various members of his cabinet. That is, if they perform their duties with ability, with great credit and brilliant success, he shares in the glory of their achievement. And on the other hand if a member of his cabinet is a failure, if he does not realize the high responsibilities and duties of his office or has not the ability or the character which that position demands, and consequently his department falls into disorder, even disgrace. The President, be he ever so upright in character, cannot escape bearing some of the odium which falls upon his associate in the cabinet. And this is right. The President should be, and always will be, held responsible for the man he places in office, especially in the high position of a member of the cabinet.

Is is essential that the President surround himself with advisors whose views coincide with his own and with whom he has cordial personal relations, otherwise unity of purpose and action would be impossible. It is important, though not essential, that every member of the cabinet have special knowledge and training in the line of his department work.

The President should have a free hand in the selection of his cabinet, yet he is embarrassed by the claims of factions in his party and geographical considerations. An ideal cabinet would be composed of men from any section of the country in sympathy with the

ideas and aspirations of the President, each especially fitted to perform his special duty, and all of high character, great breadth of view and large knowledge of men and affairs.

Should a man from the medical profession enter the cabinet and be placed at the head of a department caring for the health of the nation, he should be of the highest character and ability, fairminded and unprejudiced, and if he be fashioned in this mold I care not what are his views as to therapeutics. But how may such a man most wisely be selected? By a convention of physicians, voting for his nomination? Assuredly not! Wire-pulling and petty politics have been known to enter the sacred halls of medicine and the most astute politician rather than the man of highest ability to win. Let the President himself, who will be held responsible for the deeds of his officer, choose that official, and in the remote event of his having a medical man in his cabinet may he select one who will be above the prejudices of school and faction and who will stand for the best that there is in the noble profession to which we have the honor to belong.

Discussion.

O. S. Runnels, M.D.: We are greatly interested in all that pertains to the good of our solders in the field. Dr. Terry's paper calls attention to a most important subject—that of the sanitation of the camp, and especially to the management of infection-breeders. Where flies abound they are the carriers of infection. In a warm climate it is a great question how to rule them out. I think we had hints and suggestions in that paper that will lead to the effectual solution of that problem. Dr. Rand's paper I want to compliment highly. It speaks for itself. I don't know that we can discuss that paper; it sets forth the whole subject in such a lucid manner that it only needs to be read to carry conviction. He makes suggestions that will do away with all the abuses that were suffered in our last campaign.

Coming to Dr. Hooker's paper, I most heartily approve of the course marked out. If we go into a wrangle with a school, or schools of medicine, or medical cliques to control the appointment of a proper medical cabinet officer we are lost. If such an office is created—if such a position is to be held or established—it must be on the same footing as all the other cabinet officers. The officer should be appointed in the same way and accountable to no one but the President. By such means shall we get good service. But if it is to be an army surgeon's appointment, if it is to emanate from the present army or navy service, or the American Medical Association, it will be as one-sided as the handle on a jug; you will have no satisfaction out of it. I think we ought to put ourselves on record most emphatically on this point.

Bushrod W. James, M.D.: I want to say a word or two on this

sanitary subject. I am sorry I did not hear all of Dr. Terry's paper; but, first of all with regard to this matter of the army meats in the late Spanish war. I believe a great deal in the critical periods or crises in disease as well as in political and social matters and all the public or serious things that are going on; so that oftentimes if you will let a thing alone and expose it pretty thoroughly, it will cure itself. I think this investigation will cure all evil doings for the future in the matter of army meat preparation. As for the army and navy medical and surgical appointments, if we will wait long enough and they are exclusive and strict enough (and I hope they will rapidly become ten times more strict than they are) about the exclusion of Homœopathic physicians from the army and navy, and the worse it gets the sooner we will get our equal rights. I believe that matter is under the process of righting itself even now; and if we will give the allopathic profession enough rope we will not have any trouble about the matter in a few years to come. The time will soon arrive when we will have as many offices as there will be good men to fill them; these offices will come rolling in upon the Homœopathic school some of these days soon; but the time is not yet fully ripe. We can well afford to await its arrival.

With regard to this matter of typhoid fever in the camps, we, in Philadelphia, have recently suffered from the inroads of an epidemic of typhoid fever brought from the army camps. We have some newspapers there that have been trying to make a great fuss about the Schuylkill River water as being the cause. We drink the yellow, muddy water after heavy rainstorms and sometimes for a day or so as black as ink; but we have the satisfaction of knowing that when the water is in that condition it is very much purer than it is after a dry, low-water season and the animal and vegetable matter in it are much more concentrated, simply because there are some cities lying along the upper Schuylkill River that are constantly pouring sewage in it. When we get twice or thrice the volume of water coming down the river a little earthy matter does not hurt it, especially as we get the offensive material diluted by one-half or two-thirds or more; therefore, the greater the quantity of water flowing down the purer it should be from poisonous contents. Everybody around Philadelphia started in to say that the typhoid epidemic was caused by the drinking water; the people adopted the newspaper editorials, then talked about it; the old and young talked about it; the newspapers wrote about it and nearly every unthinking body said what impure water we have and how much typhoid fever has come in from this impure water; and yet they never thought that the population had been drinking such impure water for half a century, right out of the same river. There were a whole lot of army camps up in Pennsylvania and down in the southern country—located at one place or another—where the typhoid fever had generated and spread and they were well infected with typhoid fever. Our people in Philadelphia, always very kind-hearted and very generous, wanted to do a good thing for the sick soldiers in these camp hospitals and a great many of the city hospitals were quite empty in the summer season, and I think the gov-

ernment agreed to pay so much per man per week for these sick people away from the infected camps. Our hospital authorities took a sudden freak of being generous and they sent off the resident physicians of their hospitals together with a few hired railroad trains and went down to these camps and in a spirit of charity brought many of these sick fever cases up in great numbers—possibly a thousand or two of them—and placed them right in our fine hospitals, right among the surgical cases and among the medical cases, in every hospital, all over the city; and even two women's hospitals that would never admit men, opened their hospitals to these poor soldiers with typhoid fever. I have tried to convince the people at home that the proper way to get up a right good epidemic in disease is to plant the germs, and I have held this idea right straight along. I said if you want a first-rate crop of Asiatic cholera just plant the germs of Asiatic cholera in your hospitals and give it a fair chance; the same way with variola, yellow fever or any disease of that character. And so we did; we opened the doors of our hospitals, placed our healthy nurses over them and some of those fever cases were sent home to their own homes before full recovery to generate and carry the germs of their disease in private families. Now if you would expect anything else than a grand old epidemic of typhoid fever where you spread the germs in every nook and corner of the city it would be remarkable. We have had nearly 6,000 cases of typhoid fever in Philadelphia since it began, with a loss of nearly 600 people. The last accounts I saw it was much over 500; I have not seen the report the last two or three weeks and I think it is nearly a hundred since that time, and to this we must add all the suffering and anxiety and care or mourning and all the cases that are yet to come. I am satisfied that the germs were planted there from the camps and we got our result; and that was a severe epidemic of typhoid fever. The river water runs on as pure and as uninfected as before.

THOMAS E. ROBERTS, M.D.: I wish to rise to say amen to the three most excellent papers to which we have listened and just say a word, too, in regard to one of them. Gen. Terry's paper, I am sure, was appreciated by us all. There was just one word, though, in that in regard to the surgeons who went with the First Regiment from Illinois; that is, Dr. Adams did not go with the regiment as its major-surgeon. He resigned his major at Springfield; but was afterwards appointed major by the surgeon-general.

GEN. TERRY: Pardon me, doctor; I referred to the Guard.

DR. ROBERTS: Excuse me. He was in the service, but very late, as his application hung fire there for months when it could have been acted on in a week's time just exactly as well. All the facts were before the authorities, but they just kept a good man out until the end of the service.

Now in regard to the water-supply at Chickamauga—and I had experience with every camp which the First Illinois visited from Springfield: Chickamauga, Port Tampa, right straight down through from beginning to end. When those poor men marched

into Chickamauga—I think it was the 20th of May we went in there —after a tramp of over three miles over one of the most dusty roads that I ever traveled, we went in there just famished for water; and what did we get? There was some stagnant water in the course of one of the brooks; there was the running Chickamauga Creek (as it was called), which was thoroughly riled, carrying a great deal of matter which might have contained germs of typhoid fever; but the only pure water that we could get was from one small spring, to which a line of soldiers that would take probably an hour to reach the end was there when we got there to get this water—just one small spring; had to go down there and dip it up with a dipper; and finally the second day we were there we discovered through a farmer who came from two and a half miles from camp, the existence of the Blue Lick Spring, or some such name, and we secured barrels and went that distance for the water to bring it in there (that was before the water was piped in); so you see the opportunity it was to have there the germs of the disease which afterwards developed into typhoid fever in some of the cases. Flies there were fairly thick; but the First Illinois I inspected, and I know from personal observation the sinks were very carefully washed, very carefully cared for and done frequently; although no disinfectant was used, because it was impossible at that time to get them through regular army channels.

The paper of Dr. Rand's in regard to the beef controversy—I want to say this: I wont stand up for beef that was not right; but we found some we were mighty glad to get and it tasted almost as good as anything we ever got in Chicago (we were a little bit hungry); but there was some of the beef that was good. Of course we found the swelled cans, and when we found the swelled cans the minute we put the knife in them—pist! that meant poison. Some of the boys did get into them and that meant acute trouble—gastro-enteric disease, which was in the majority of cases almost immediately relieved if the patient was given a good thorough purging. The food which we had on the 17th of June, or the 18th of July, the day following the formal surrender (I was placed in charge of the Third Division, Divisional Hospital, where the sick from eight regiments were congregated), for the first three or four days the only food that we could get for those poor men carrying temperatures all the way from 103 to 106—pulse in proportion—suffering from the typical climatic disease (this was in front of Santiago the day following the surrender), the only food I could give those poor men was this canned beef with a few canned tomatoes brought from somewhere, strained and cooked in one large twelve or fifteen quart pail; and, by the way, that was the only cooking utensil I had for the first two or three days I was in charge of this hospital; and in that time I had from 80 to 140 men in the hospital and were drinking water at this time which came from the San Juan River, which was running right down through the town of Caney, where had been congregated 25,000, more or less, of the refugees, those who had been taking advantage of that location when Shafter had threatened to shell the city. This water was coming right down through

our camp and was the sole source of supply of drinking water for the boys during the long wait from the first fight—from the 1st of July—up till the time of surrender; so you can imagine right clearly —you don't have to imagine, you know (those of you who stop to consider)—that it was right here that many of those men received their germs of typhoid fever. Here these refugees were, concentrated in this town; they were washing their clothes in the river; they were bathing themselves in the river; there would come these heavy rains, sometimes every day (the rainy season was just starting in), and everything washed into that river and down it went, past all the camps which were then in front of Santiago, situated on the north and east slope of San Juan Hill.

The Fresh Beef.—The fresh beef came from the hold of the ship, from those refrigerators, in good condition, and I don't think there was any question about it; put on the wharf there sometimes early in the morning; and there it was; the sun came and beat down every morning just as clear as this afternoon; but that sun same down there and almost baked that beef, sometimes, before it was attended to. And talk about flies not getting on beef! I did not see a piece of beef while I was down there that would not attract flies by the million; so that if my evidence had been given I could not say, as did the witness, that flies would not light on the beef, because I followed the beef—I had the chance to watch it through these different regiments after the 17th; and the beef did not come in there until several days after the surrender; it was probably about the 1st of August that we commenced to get the fresh beef and the fresh bread; but the damage had been done before that time, and even at the time of the surrender those poor boys would come down sick by the score from what they had already passed through. If I could only have the time I could give particulars of each step of the development of those cases of typhoid fever and those cases of dysentery such as you read about in the text-books; they would just ulcerate right through the rectum, clear down into the sigmoid flexure. I have had a little hospital experience, and have performed a few post-mortems; but I never saw any such cases of dysentery as we had down there. We performed some post-mortems at the front, hoping to benefit thereby.

The recommendations of Dr. Rand we should most heartily endorse; and coming down to Dr. Hooker's paper, I am sure we can all say amen to that.

Homœopathic Surgeons in the Hispano-American War.

By Charles A. Adams, M.D.

Your kind invitation to say something regarding the recognition of members of the Homœopathic school during the Hispano-American War is at hand.

There is not much to be said directly upon this subject, for there was no recognition of the school as such. Every medical officer who went into the volunteer service from the Homœopathic school did so either on his State commission or through influence. The general government took the commissioned medical officers of the various State services, so far as I know, without any question of school, letting the responsibility of the commission rest entirely with the State authorities.

In some of the States medical officers were selected, mainly from those already holding position, by examination. In Illinois the examination was eminently practical and strict enough to deter several from finishing. I do not know how many, if any, members of this school went into the service as contract surgeons. Regarding those who went into the service in other capacities than as regimental or contract surgeons, it must be borne in mind that the appointing power lay wholly in the executive; the surgeon-general of the army may recommend, but cannot appoint.

In whatever position the medical officer was placed he was expected to be familiar with, and to use the regulation medical supplies and could use no other. The Homœopaths who did serve in the Hispano-American War have occupied an unenviable position. They have been made the subjects of criticism by both sides, accused of "deserting their colors" by the regulars because they gave the drugs required by regulation, and by their own school for not using remedies with which they were not supplied and which they could not obtain. Had they been appointed as representatives of the school to demonstrate Homœopathic therapeutics in the field, such criticism would be warranted, but under the circumstances it is unwarranted and, to say the least, unkind. One of the fundamental principles of

organization of a fighting force is uniformity of equipment, and it would be an utter impossibility in a campaign conducted as was the Cuban invasion to keep medical officers of differing schools of practice supplied with individual outfits. The medical officer is a detachable, transferable and interchangeable unit, and can be useful as far as therapeutics goes only to the extent of his ability to use the supplies as furnished throughout the army. The opportunity for recognition of the Homœopath, as such, will come whenever Homœopathic remedies form a part, or the whole, of the supply table. How to bring this about is another question. The matter of administration of drugs to the sick is not the all-absorbing subject to the military medical officer that it is to the civil practitioner. The military physician is occupied with the consideration of everything that may conduce to, or impair, the fitness of the soldier for his work. Hygiene of the person, camp or barracks, clothing, food and water-supply, the housing and caring for the sick or wounded must be studied. He is expected to train his own nurses, to be able to prepare plans for hospitals, and, above all, to anticipate and prevent disease. In view of the multifarious nature of the duties required of a medical officer, it would seem that the members of the Homœopathic school who served as regimental surgeons are entitled to credit for the record they have made.

In conclusion, I should like to enquire if it is within the province of the Bureau of Public Health and Sanitary Science to recommend through the Institute the establishing of courses of lectures in all our colleges on "Military Hygiene," or on "The Duties of the Military Medical Officer?" The way to the volunteer service is through the national guard, and certainly well equipped and educated officers from our school in the medical department of the national guard can exert a wholesome influence in favor of the school itself.

Camp Sanitation.

By C. T. Adams, M.D.
Surgeon Major, U. S. Volunteers.

Through the kindness of the chairman of this bureau I have been invited to address you, briefly, upon some questions of camp sanitation; or, more specifically, upon the causes, predisposing and exciting, of the epidemic of typhoid occurring in the camp of the Seventh Army Corps at Jacksonville. I feel much indebted for the invitation, for it will give me no little pleasure to review those occurrences concerning which I might say, unlike Æneas, "Quorum parva pars fui."

To plunge at once in media res, then, I would say negatively by way of settling a much-vexed question, that the army ration was not a cause of typhoid in special, or of other illness in general. Not that I wish to claim that the army ration is ideal; not that I believe that abundance of fresh beef and mutton, with beans and bacon, is the ideal food for raw volunteers encamped through a tropical midsummer; not that I do not know that a considerable proportion of rice and the lighter cereals would have greatly benefited our men. But I do desire to say that the army ration was definitely prescribed, and that the ingredients of that ration were furnished in abundance, and of uniformly excellent quality. No evidence appeared at Jacksonville of the use of any preservative upon the fresh meats or other rations, and the meats, after removal from refrigeration, remained fresh about as long as meat should have done under such circumstances, and no longer. The exceptions to this were so rare as only to prove the rule.

The general causes of the typhoid epidemic at Jacksonville may be regarded as predisposing and exciting. Among the former I may mention the camp-ground itself; this was the site of an old cypress swamp, and surface water could be found anywhere at from two to four feet below the surface. The heavy rains made temporary lakes of the camp-grounds, but the surface drainage was rapid.

I may mention, second, the climate. The intense heat, especially of the early morning was extremely depressing to our northern men; and you will not consider this strange when I say that a temperature in our tents of 100° or higher at nine A. M. without a breeze and with humidity at the point of saturation was not unusual. Later in the day, a refreshing breeze was the almost invariable rule, and the nights were uniformly cool and delightful. The military order which prescribed the sounding of the reveille at 5.45 every morning, and which put our men through two periods of drill in the hot sun each day, the first of these during the hottest morning hours, was responsible for a large amount of physical fatigue and depression.

Errors of diet were a prolific cause, especially of intestinal disorders. If the regular army ration had been adhered to there would, I think, have been little trouble in this direction; but the average volunteer soldier considers himself superior to the laws of God and man, and knows that he may experiment with the digestive apparatus with perfect impunity. As a result of this conviction the medical department had a good deal of extra duty to perform. In addition, it was the misfortune of several regiments, and among them ours, to have within their camp-grounds the abomination known as the regimental canteen, where a vile quality of beer was disposed *ad libitum*, so long as one's money lasted. The effect of this upon the health of the men may be imagined from the fact that on July 16th my assistant surgeon, in his sanitary report, stated that he believed two-thirds of the illness then prevailing was traceable to the canteen.

The usually important question, in this connection, of the water-supply, I may pass with mere mention because, like Calpurnia, it was above suspicion. Water was piped to the camp from the Jacksonville waterworks. It was abundant, and, aside from being strongly impregnated with sulphuretted hydrogen, it was very satisfactory.

The crowding of our camp was an important cause of sickness in general, and of typhoid in particular. Imagine a parallelogram about eighty yards by one hundred and seventy. This ground without any change, was the habitat of thirteen hundred men during three months of a Florida summer. I will not tire you with the ordinary dimensions of a camp of a regiment of infantry, but will simply say that the regulations prescribe an interval of one hundred and sixty yards between the line of the kitchens and that of the sinks. In our camp, in some cases, the sinks were within thirty or forty feet of the kitchens, and no kitchen was more than seventy-five feet from a sink.

The Jacksonville physicians told us that their town was habitually free from typhoid, and I believed them. When a volunteer force is aggregated, coming, as it does, from a considerable extent of country —our regiment, for example, represented eight cities, or country towns, and villages—typhoid fever is quite sure to appear among them after a varying interval. Some of the Western regiments were infected with typhoid when they arrived at Jacksonville, and it was not long before all were infected. The water-supply being, as I have said, above suspicion, the question as to the means of dissemination of the typhoid germ becomes of interest. Personally, I believe that the miserable arrangement of the sinks was wholly responsible for the rapid spread of the disease. The sinks were upon what is known as the tub system. A roofless building of hemlock boards, about eight by twenty-four feet, served simply for a screen. Within and along one side of this was placed a row of oaken tubs, in front of which a rounded pine rail served as a seat. The tubs, which were thus entirely uncovered, were removed in wagons once daily, ostensibly for emptying, and washing with water, being replaced, meanwhile, by empty ones. No effort was made to disinfect either the tubs or their contents, and the whole process of their removal was effected in a filthy and careless manner, the ground being liberally sprinkled with their contents.

I have said that these sinks were frequently within forty or fifty feet of the kitchens. Here was the opportunity, and the common fly embraced it. I have never seen these pests so abundant as in the camp of the Seventh Army Corps. Their favorite resorts were the sinks; but during the preparation of the meals, they betook themselves in swarms to the kitchens, afterward returning to the sinks until the preparation of the next meal.

All cases of typhoid as soon as diagnosed, were sent to the division hospital for treatment, but a very large number of them remained walking cases until the second or even the third week of the disease. Many men did not report for treatment until the disease was well advanced, and the diagnosis was often delayed by the presence of constipation, low temperature, delayed or absent eruption and other irregular symptoms. Indeed, the majority of the Jacksonville physicians refused to diagnose many of the cases under their care as typhoid. Under these circumstances, and with the opportunity afforded by the sinks, the entire camp-ground necessarily became contaminated.

These causes united to bring about a very extensive typhoid epidemic, which, however, did not fail to give timely warning of its

advance. On the tenth day of June, 1898, the men in our regiment on sick report were .3 of one per cent. of its strength; on July 10th, 3 per cent.; on August 10th, 10 per cent. and on August 24th, 26 per cent. The latter rate was about maintained during the month of September notwithstanding the removal of the regiment on September first to a clean camp-ground.

Regular written reports upon the sanitary condition of the camp, with recommendations for the amelioration of abuses, were made to the corps surgeon weekly. Similar reports, but more elaborate, were made to the surgeon-general monthly; and reports and recommendations, written and oral, were made to the regimental commandant about every forty-eight hours. I am not sure what disposition was ultimately made of these reports but no appreciable result followed them, until finally, on August 26th, an emphatic demand for the removal of our men to a clean camp-ground resulted in a prompt order transferring us to Pablo Beach.

These are the conditions, hastily sketched, under which the typhoid epidemic of the Seventh Army Corps at Camp Cuba Libre developed. As to the conclusions, I imagine that you have drawn the most obvious ones for yourselves, and I shall add but one. Amateur surgery is not usually a brilliant success, nor amateur medicine, nor obstetrics, nor soldiering; but the latter is what we had, in a very large measure, during the campaign of 1898. And how shall we profit by experience and avoid such utterly inexcusable results in the future? If I may suggest, by maintaining a military establishment in some degree suited to meeting the emergencies that are likely to arise in the history of a progressive nation of eighty millions, and, especially, by providing a medical department either disproportionately large, or capable of rapid and efficient expansion, until such time as the millennium of universal arbitration is reached.

The Physician a School Sanitarian. Why?

By J. W. Le Seur, M.D.

It is obviously difficult to present something worthy of the consideration of a body of men whose very presence here is prima facia evidence of their position in the front rank of progressive medical and sanitary intelligence.

So complete has been the research and so careful the study of sanitation in the recent past that a new field for investigation is not easy to find. Notwithstanding this fact the work of the Bureau this year has not been exclusively done in the old and beaten pathway.

We offer for your thought to-day some phases of sanitation which have hitherto been more or less neglected, but which, by your kindly aid, we hope to make more prominent and more beneficial.

By your consideration, approval and cooperation we hope that the subject we consider to-day may be made a town, a county, a state, a national blessing.

You will agree with each other and with me, I think, that the educated physician should be a leader in all that benefits mankind. Especially in all sanitary information and instruction. And in order to do this, he must of necessity, have a thorough acquaintance with the problems of sanitary science.

Mankind to-day is not satisfied simply to be; but demands to me told how not only to be *well,* but how to be *best.* How to be best fitted to bear the burdens and meet the responsibilities and fight the battles of life. Battles which constantly become more severe, requirements which are increasingly exacting.

There is great danger in our modern methods of progressive construction, that in our anxiety to build rapidly, and build lofty edifices, we may forget the great, the transcendent importance of a sure foundation, without which, no superstructure, however beautiful, can ever be safe.

So, we submit for your thought to-day, the great importance of the best possible physical being and the impossibility of securing this for the masses without the best sanitation for our public schools.

The broad scope of this subject is at once evident. Its far-reached purpose is easily seen. From Maine to California, there is no place where children assemble to begin, continue or terminate school life, that is not vitally interested in this most important theme.

If the physicians have any broad province for the exercise of the trained intelligence they possess, surely it lies in the consideration of the formative period in the life of the child. There is a duty, which devolves upon the pedagogue to train the *mind* of the child, and that duty was never more enthusiastically done in any land than it is in our own to-day.

But there is also a duty incumbent upon the physician, part of which is to see to it that the pedagogue does his duty in the best way, and does not allow his zeal for the mental advancement of his pupil, to overstep the boundaries of the broader wisdom, and above all, that he educates the physical and mental powers coordinately in the best possible manner and with the most suitable environment.

Hence, the necessity of the physicians studying carefully, and acquiring a practical working knowledge of, the sanitation of the public school.

When you consider the fact that during the period of the school life of the child, from five to twenty years of age, one-fourth of the time is actually spent in the school room, it becomes a matter of vital importance to know that the best possible sanitation is secured.

I quote from the annual report of the visiting committee of the school association of the city, which from a sanitary point of view stands in all important particulars first among the cities of the whole United States. A city whose death-rate in proportion to its population is lowest. A city whose careful attention to sanitary science as it relates to the citizens in general is most intelligent and thorough.

If a report like this is an accurate presentation of facts as they exist in a city which is foremost in caring for the sanitary welfare of the children in its public schools, what think you would be the probable report from the cities which pay least attention to this important matter?

I read from the report—"The report on the sanitary condition of the public schools, made by the Visiting Committee of the Buffalo School Association in March, 1898, presented to the citizens and tax-payers of Buffalo certain important facts concerning the character; construction and equipment of our schools. The report carefully considered the then existing conditions in many of the schools, pointing out numerous defects and where practicable, recommending changes in the old buildings and offering suggestions for thoughtful

consideration in the construction of new school houses. In conclusion, the most pressing sanitary needs of the schools were summarized, with the purpose of bringing about such adequate and permanent improvements as would promote the health and well-being of the children, and at the same time enlarge the usefulness, and improve and increase the efficiency of our school system.

"The conditions having thus been plainly presented to the attention of the school authorities and the public, accompanied by an earnest recommendation that the most exigent requirements be fairly met and carried out, your committee awaited the results and in due time began a systematic investigation of the schools for the purpose of ascertaining to what extent attention had been given to this subject, and in what degree the work done during the summer months had contributed to the desired relief.

"Your committee have been guided in their investigation into sanitary conditions this year by their report of a year ago, and have taken as essentials the most pressing sanitary needs, as summarized therein. They can report from what has been done by the city during the past year, beneficial results in some directions, slight progress towards the desired ends in others and positively no benefits resulting from the expenditure of time and money in still other directions."

The report further shows an overcrowded condition of the schools in thirteen separate schools. In one school room a registration of seventy-five and a provision of only fifty desks.

This question, meaning satisfactory adjustment of desks, will have the attention of a number of this bureau in a paper which will treat this subject intelligently and thoroughly.

The question of the light and its relation to the studying child will also be considered.

This report specifically condemned the sanitation as regards the plumbing, and the no uncertain language censures the authorities for having accepted the same and placed it in a public school building.

Both the heating and ventilation, while perhaps surpassing in sufficiency and thoroughness that of any city in the Union, is far beneath the proper standard of excellence.

In thirty of the public-school buildings in this city the ventilation is unsatisfactory.

This very interesting and instructive report, a copy of which ought to be in the hands of every intelligent physician in this country, shows the importance of an intelligent consideration of this sub-

ject and the vital importance of and necessity for radical reforms along the line of school sanitation.

Hitherto has it not been the custom of most physicians in their several fields of practice to evade or ignore the responsibility resting upon them relating to the school life of the child?

Has it not been customary for the physician to deem his duty all done when he treats the various forms of illness which may be directly or indirectly traced to unwise sanitation or neglect of suitable physical training?

Is it not the experience of the majority of you to whom I speak to-day that when a child is brought to your professional notice who is evidently overworked in school, whose tissues are flabby, who lacks sunshine and suitable nourishment, that you have been accustomed to regard your duty done when you have recommended a rest for the child and release from school work for a period of time sufficiently long to allow the child partially to recuperate his impaired strength?

Is it true that in an impure atmosphere, in an improper position for an unreasonable length of time, children of to-day are urged, and forced, to not only use, but abuse the physical and mental faculties to such an extent as to impair their future usefulness, to prevent the attainment of the highest, to so injure the physical being as to make the remainder of life a curse rather than a blessing?

Is it true that for want of suitable sanitary study along this line, for want of proper oversight and guidance, the schools of to-day are doing less than they ought to do to prepare a sound physical being in which a trained mind may be cultivated?

It is true that we are cultivating the mental at the expense of the physical?

Is it true that the physicians of to-day are quietly allowing their own children to overwork in the public schools without any form of protest?

If I have stated in this interrogative form facts which you realize, and the importance of which words cannot adequately express, are you ready to answer for yourselves in this meeting to-day, and in the field of your practice at home, and in the medical journals to which you may contribute, this question:

Why should the physician be a school sanitarian?

It may not be outside the province of this paper to suggest a few of the many reasons why we believe the physician of to-day should emphatically be a school sanitarian.

We believe he should pre-eminently be this.

First: Because, his professional knowledge and training give

him a vantage ground from which to view this great question; give him opportunities to see its bearing, to see its relation to the every day life of children for whose physical development and well-being he is to a certain degree actually responsible; because his knowledge of anatomy, physiology and chemistry give him the opportunity to know what should and what should not be permitted in the sanitation of the public school.

He should be a school sanitarian.

Secondly: Because, his daily practice convinces him of the pernicious effects of neglect and oversight here.

Every oculist realizes the increasing defects of vision among the school children of to-day, and this class of practitioners knows perfectly what perhaps the physician in general practice knows less perfectly, but still realizes painfully, namely, that the visual defects are frequently due to unwise methods of teaching and of study and to unreasonable demands which are constantly being made upon the student.

The physician should be a school sanitarian, because he can speak "ex cathedra" and authoritatively upon this question, and it is not only his duty to speak here and to speak now, but some of you in thinking of this subject, as it grows upon you, will say that the physician who neglects to protest against the growing evils involved in this question is guilty of a negligence little, if any, less than criminal.

The physician should be a school sanitarian, because, he is in a sense charged with the care of the physical development and growth of the race and he cannot justly ignore or evade this responsibility by shutting his eyes to it, or endeavoring to persuade himself that it does not exist.

Upon the thorough care which the ancient Greeks and Romans took of the development of their children largely depended the physical and intellectual symmetry and power of those races. A race of puny physique can never be a race of permanent power.

Each physician should be in his own field of practice an active school sanitarian with the avowed object of securing the most favorable conditions possible for the physical and intellectual development of the children with whom he may come in contact.

The physician should be a school sanitarian, because in the consideration of this question will be found the origin of many of the complicated forms of diseases of children which are now grouped under the head of "neuritis" and "neurasthenia."

Because, a consideration of this subject will furnish valuable

information in the discussion of many of the difficult problems of optics.

The physician should be a school sanitarian, because, this question arises above any one or all of the minor details of any given case.

It is as broad as the race and as high as the highest attainment of man, as comprehensive in its outlook as the ambition of humanity and as far-reaching as the welfare of posterity.

If life's possibilities are largely measured by the physical power of the individual, then it is the imperative duty of every physician to exercise such supervision as may be necessary for the sanitation of the public school nearest him in order to secure the highest well-being to every pupil.

The consideration of this subject in its details will be undertaken by men whose wide acquaintance, high order of intelligence and scholarly training eminently qualified them to speak for our edification and instruction.

May we not hope that the imperfect consideration and partial discussion which we may be able to give this important subject at this meeting shall result in every school throughout this great country in a stronger body, a stronger mind, and hence, greater possibilities of attainment for every child?

The Physical and Mental Conditions of School Life. The Problems Stated.

By F. Park Lewis, M.D.

About one-fifth of the entire population of the United States is ranked in Educational Institutions. This means that nearly fifteen million young people spend the greater part of the day for nine months of the year in schools.

The school is, in very deed, therefore, and not merely as a figure of speech, the corner-stone of the Republic. Education in this country is not voluntary—it is compulsory.

If we make laws compelling children to go to school, it is simple justice to see to it that their compliance with these laws will result in good to them and not evil. That at least their power and usefulness in the world shall not be *impaired* in consequence of their obedience to the laws which we have made for their supposed benefit.

This is why the question of school hygiene is of such moment. Putting even the justice of the case aside, it is still, as a matter of social economy, of vital importance to the country that its future men and women should be developing their best mental powers unhampered by dwarfing influences,wherever foresight and care would make this possible.

Some of the best men in the land are devoting all that they can spare of time and strength to the bettering of school conditions, but they feel themselves to be working against a negative, rather than with a positive, public opinion. The reason, I think, for this is not that the public is really so indifferent, for the public is composed largely of the parents of the school boys and girls, and they do care whether or not the best interests of their children are secured and maintained during the important period of their school life. But they take it for granted that it is so. The school is at any rate an organized body, over which no individual parent can have any control.

The teachers are there to look after the school; the school board

to look after the teachers, and the parents do not feel that they are shirking a responsibility in leaving all the details of school-buildings and school work to the proper authorities.

But if we engage the most competent and responsible architects and builders, carpenters and plumbers, to build us a home, we do not then withdraw from all personal oversight or supervision. If we do, we know that we take our chances on the results.

The parallel fails in one point, for whereas we are likely to choose an architect with great care if our home is to be a permanent and desirable one, in sending our child to school the nearness of location and many other points enter as strongly into the decision as the especial fitness of the teacher for his work, or the perfection of the school-building for its purpose. Moreover, there are many to whom no choice can be allowed in the matter; and to the children of the less well-to-do we owe surely quite as much as to those who might choose in the selection of a school.

No school-bulding should be unfit for your child or mine to spend a portion of the day in; no teacher unfit to train the intelligence and awaken the sensibilities of *our* children, or unable, because of the impossible work demanded of her, to treat the children of her classes as individual souls.

In a recent report from a public school of one of our large cities, the classes under one teacher were so large that some of the pupils could only recite once in three or four days. Consider how much interest and enthusiasm could be expected from a child under such circumstances! And I do not believe this to be an isolated instance.

A teacher said to me not long since that the over-crowding of the school-rooms, the bad ventilation, the number of pupils each teacher must care for, the tremendous amount of matter to be "gone through with" to prepare for the examinations, all this, together with several minor difficulties, made each day's work, which ought to be a delight to both teacher and pupil, a drudgery to the one and a burden to the other.

The result must be not merely a lowered vitality, but an intellectual power incomparably below what might be obtained under right conditions. "What chiefly makes reform so hopeless," this same teacher went on to say, "is the apathy of the parents." The teachers are powerless. They are engaged to teach a certain amount, in a certain length of time, to a certain number of pupils. If they object too much to methods or conditions they lose their positions and that is all. Nothing more is accomplished.

Whether the pupils in any school have seats, or light, or air

proportioned to their needs; whether the matter given them to learn is adapted in any degree to their powers or intelligence, is apparently no concern of the teachers, nor even of the principal.

In fact, with the buildings and their accommodations or defects, even the Schood Board has nothing to do. It is far from being the all-powerful body that it is popularly supposed to be. The School Board may make "suggestions" to the Board of Public Works, which may then be reported to and acted upon—or laid on the table—by the Common Council. And to get a school-building erected, or changed or enlarged, when it is necessary that it should be done, is almost literally nobody's business, and is like one of the labors of Hercules to accomplish.

To achieve any modification of the curriculum is almost a more difficult matter still, so vast is the machinery by which the workings of our public schools are controlled. This machinery is some of it, of course, necessary, but much of it is not.

The first great difficulty encountered by public-spirited people in making an investigation of our public school system with a view to its improvement, has been this *scattered* responsibility. I should have said "divided," but that word seems to imply something definite, and in the investigation of the schools in Buffalo, at least, one of the most difficult tasks was the fixing of responsibility for anything anywhere.

A general impression has until recently prevailed that from a sanitary standpoint, at least, our public schools throughout the country were in fairly good condition. Within two years special investigations have been undertaken in Boston, New Haven, Cleveland, Philadelphia, Washington, San Francisco, and Buffalo, with results that were startling in the extreme. The state of affairs revealed in some of our leading cities was truly deplorable.

Buffalo may be taken as a fair example because it has for some years justly prided itself upon having a Superintendent of Schools and a School Board, both enlightened and progressive, and alive to the interests of the schools. If, in the schools of Buffalo, such conditions could exist as were found there, better results could hardly be hoped for in less favored localities.

In this city the investigation was conducted by the School Association, an independent organization comprised of a number of the most progressive and intelligent citizens who voluntarily undertook the work. The inquiries were made in the most orderly and scientific manner, by means of blanks prepared by sanitary experts,

covering such topics as site, building, sanitation, ventilation, heating, cleaning, health, etc.

Ninety-two questions with subdivisions were answered according to this system for each school-building. This enormous labor was made possible by assigning to each of nearly a hundred volunteers an especial part of the work.

The investigation was limited in this instance to sanitary conditions, because the committee was convinced that the school instruction was already being greatly improved under the radical methods of its able superintendent.

Some of the conditions found I will quote directly from the Association's report:

"More than one-half of the schools are using rooms as classrooms which were never intended for that purpose. Attics, basements, portions of the halls, and even cloak-rooms being pressed into service. The latter, especially on rainy days, where the atmosphere is not only heavy from lack of ventilation, but filled with the emanations from damp clothing, are almost impossible to remain in."

In one school, a room 8 x 10½ feet was used for a class of twenty-three children, and another, 8½ x 14 feet, contained a class of twenty-two together with a teacher and stove. In all but two or three of the sixty odd schools visited, the report reads: "Every room in the building deficient in air space."

Ventilation in most of the schools was shockingly imperfect. Many had exceedingly expensive apparatus put in but it didn't work. Lighting was found to be insufficient and windows wrongly placed in many of the school-buildings and the sanitation in some instances in an unspeakably horrible condition.

In some of the newest and most expensive buildings was found faulty construction, and an evident failure to recognize some of the best known principles of sanitary science and of school architecture.

I wish that this report could be put into the hands of every one interested in educational matters throughout the country. For it is a record of the exact conditions under which children, whom the law compels to attend school, must fulfil its obligations, in one of the progressive cities of the United States.

That these conditions in Buffalo were unique and not typical we would fain believe. But published reports from other cities will not allow us to lay this flattering unction to our souls.

During the past winter a report of the condition of the schools of Rochester was placed in the hands of the Governor. He at once insisted upon the passage by the Legislature of an especial bill com-

pelling the immediate expenditure by the school authorities of this city, of one hundred thousand dollars for the improvement of its school facilities.

An examination of the public schools of the District of Columbia, presented to the Senate as a public document, shows the existence of sanitary defects almost equally glaring, in the Capital of the country.

We must recognize the truth, then, that with a few notable exceptions the hygienic conditions of the public schools of our land are such as it will need strong measures to render even tolerable.

Aside from the very obvious defects which the reports of the Buffalo, Rochester, and Washington schools bring before us, such as overcrowding, imperfect ventilation, defective plumbing, etc., there are three distinct elements of danger to the school child which demand recognition and correction wherever they occur.

The first is the possibility of communicable disease, whether local or general. Over the latter the Board of Health generally assumes control But the customs still prevalent of allowing numbers of children to drink from the same vessels, to use common towels, and to use pens and pencils interchangeably, should not be tolerated.

Second, is the still very common custom of using seats and desks of a fixed size for children of about the same age or grade, who often vary greatly in height. The effect upon the developing child of the daily distortion which this necessitates, the evil results both upon the spine and the eyes, have again and again been demonstrated.

Third, is the deplorable effect of various habits and methods of school life in producing diseases of the eyes and of the nervous system.

When we find, as observers everywhere have found, that there is a steady rise in the percentage of myopia during the school years, that this condition, rare in young children, is found in almost one in four who have completed a Normal School course, and that this alarming proportion continues to increase through the higher education, we are forced to believe that there must be something radically wrong with a system which makes such a state of affairs possible. And we must seriously question whether the amount of eye work, the book study, writing, etc., demanded of school children everywhere, might not be replaced by methods of study equally satisfactory and less exacting upon the eyes.

The questions of the amount of study, and subjects of study, and method of study would fill volumes, considered in their relations to either the physical of mental well-being of the child.

Although I have given the merest outlines of what I would like to say so far, I have left myself no time to speak of the conditions of mental growth. Purposely so, however, because I felt so strongly that intellectual power and progress depends largely upon right physical conditions, that these should be the first considerations.

But I must enter one word of protest against the competitive element in our schools, urging ambitious and highly strung children far beyond their limits, and depressing and discouraging the less clever. One word also against the frequent examinations, keeping nervous children in a state of anxious tension, which surely has its effect in later life; and a very serious word against all the conditions which make it impossible for the teacher to individualize and discriminate, and above all against the failure on the part of teachers either from complicated conditions or from lack of knowledge, to recognize pathological fatigue when it is present.

These are a few elements in a most complicated problem. All the blame for our imperfectly developed youth cannot be laid upon the school. It is, unfortunately, not true either mentally or physically that all are born free and equal. Physical and mental disadvantages and inequalities have to be met and supplemented and compromised with at every turn as all of us know too well.

Then many children, the weak as well as the strong, children of the well-to-do as well as those in lowly life, struggle into manhood and womanhood under home conditions that render their best development an impossibility, and against which the teacher works in vain. But all that is aside from the question. Because two things are bad may make the first less conspicuous but not less objectionable. It does not make it less important, but rather more, that the school environment should be made as near ideal as possible when we are told that the homes of our children are not what they should be.

Difficult as it may be to reform the schools, home reform we must fear is still farther in the future. The homes belong to individuals, the schools belong to the commonwealth.

At home the child is in charge of his parents, at school he is in your charge and mine.

If it is true that the children of this country are not reaching the degree of mental and physical perfection which is their right by inheritance and should be insured to them in their education we, their fathers and mothers, their physicians, their *friends*, we, the citizens of the United States and, therefore, their law-makers and guardians, cannot shirk the responsibility which is ours.

By what means the needed changes in our school-buildings and school work can be brought about the coming years only will determine.

An ideal organization for such a purpose would be a national one, represented in all our principal cities by some such School Asociation as accomplished great results in Buffalo, gradually spreading its work until its influence is felt in the remotest country districts.

This organization must be entirely free from political influence and should be composed of the ablest men and women the country affords, men of all classes and professions being urged to its membership. There should be architects and physicians, expert plumbers, and civil engineers as well as advanced educators among its members.

Through such an organization the public schools would be brought into touch with the most advanced thought in every direction. The most skilled opinions of the world would be at their service.

The intricate machinery and the superb irresponsibility of the schools of to-day could not stand against such a power as this organization would be.

Speed the time when some such redeeming force may come with its awakening power!

The Higher Education of Woman from a Physical Standpoint.

By Julia Holmes Smith, M.D.

The history of civilization from the earliest times, aye, from the day when Miriam sang her song of victory and later when Deborah judged Israel and led with Barach the hosts in successful battle, has recorded the achievements of learned, unusual and ambitious women. From the very dawn of history there are records of women who sat in judgment, led armies, talked philosophy, lectured in the schools, and the intellectual possibilities of the sex were only hinted at by such veritable lusus naturæ of ye olden time.

It has remained, however, for the nineteenth century, in most generous fashion, to furnish opportunity for the higher education of woman, not as an individual, but as a whole, so that now vast hosts of maidens hide their petticoats under the scholar's gown, and with mortar-topped cap atop their pretty curls or graceful braids of hair accept worthily won university diplomas, signed by the same distinguished masters in philosophy, literary, science, law or medicine as conferred upon their brother students the sign manual which signified an accomplished curriculum, giving thus the right to share in the world's intellectual and scientific work, and to receive a fair share of the emolument which can be so attained. Higher education for woman is now possible for every one who is willing to work for it.

The results of this experiment in the nineteenth century, both socially and intellectually, are delightful. We enjoy the converse with such well-read women, we buckle them to our souls with links of steel as friends, we consult them in our difficulties, they are indeed altogether the most glorious product of our time. But—the question I am called upon to discuss to-day is both pertinent and important, since it has to do with the evolution of the race, and I am free to confess that this question cannot be answered by any woman living at this time. It should be left to the sociologist who may gather records of several generations, and who will probably compile these records in the twenty-first or twenty-second century. He will then have collected statistics and will tell his compeers

whether the race has been benefited by the development of the feminine mentality.

The differentiation of function is essential to the evolution of a race and this differentiation makes the special physical function of woman that of reproduction of the race. Even portrayers of highly improved scientific achievements who date their works well night two hundred years hence and who have succeeded really in dreaming of a scientific substitute for a soul, have never once suggested a possible substitute for this most holy maternity. As physicians, then, our business lies with this part of the question: What does higher education conduce to or detract from the evolution of the race? Is this higher education as usually sought for conducive to the physical well-being of our future mothers? My reply will be both yes and no. Yes, because after acquired mental power has through successive generations become part of the female organism, there must needs be transmitted to the offspring with physical tendencies, mental peculiarities. The curl of the hair, the shape of the eyelid, the dimple of the cheek, is referred often to the grandmother and even farther back in the story of generation.

Ribot, whose work on Heredity has been most thoroughly appreciated in the scientific world, claims that gemmules containing physical characteristics of ancestors often lie latent through succeeding generations until a desirable nidus is created for their evolution. Why, then, may not gemmules containing highly developed brain function be alike made available in the creation of the new being, as well as cells with possible tendencies toward tuberculosis, rachitis, or scrofula?

Who has not verified in his own experience the law of heredity that sons are most often like their mothers and scientists account to some extent for the well-known fact that great men, politicians, warriors, philosophers, artists, scientists, rarely have sons who glorify their names? The habit of the intense thinker is to seek in his wife some one who will be restful in the home and not interested in the details of the outside life. I am reminded of Goëthe's son, born of a peasant maiden, who bore the soubriquet all through his life of "Child of the handmaiden," and as a contrast, think of the beautiful artist and scholar, born to Elizabeth Barrett Browning, who, while neither equaling either parent in marvelous poetic gifts, is surely an honor to both. It behooves us, then, to encourage wisely and warily the higher education of woman, anticipating through this culture a nobler result in the reproduction of the species. It does not follow

that a classicist cannot be a good mother, nor a philosopher wisely manage the details of a nursery.

But you will ask why the "no"? Because the preparation for this higher education has not been carefully made. The foundation of the superstructure is in many instances very defective, and the development of the intellectual faculties of a woman has been at the expense of her physical organization. We physicians, who should be watchmen on the housetops, have utterly failed in our duty and have neglected to cry aloud and spare not the unwise school board, who through the years that the girl is being prepared for the higher college and university course—when brain and brawn will be taxed to their uttermost—have failed to arrange the school curriculum so that physical culture has been perforce neglected and the body, that temple of the Holy Ghost, has been injured in its very foundation, and the ambitious girl graduating from the high school, has many times been obliged to consult her physician, complaining of maladies whose very name should be unknown to the healthy woman, back ache, leucorrhea, insomnia and a host of other neurotic symptoms, The normal girl should only know of the existence of the sexual organs when the necessity for their use arises.

I have been reading lately, Mrs. Burnett's "Lady of Quality," and was much interested in the ideal woman of the eighteenth century, so far as her physical organization was concerned. I have no word of commendation for the moral atmosphere in which the young woman was educated, but to me she is an ideal of physical development, broad of hip, and straight of back, strong of limb and wise in judgment, this girl came into her kingdom after having had an education such as the boys of her time were allowed. She could ride, and she could swim, she could run and fight as well, and to her shame, be it spoken, her fist was oftener used in argument during her childish days than her intellect; but all the same, when the demands of social life presented themselves, and the wooer came to whom her heart responded, she, the normal woman, said, "My Lord, I do so love you that I do long to give from myself sons who may be like unto their father." How many women of the nineteenth century, especially the women who have been gifted with the higher culture, so yearn toward the husbands of their choice?

Am I unduly magnifying the physical development of women? Verily, no. But I would bespeak for the girl during the period between seven and seventeen, such leisure from mental application as will insure a perfect development of the bodily organization. I would encourage marriages later in life. I would give to the young woman

the same leisure for culture that her brothers have and would insist that the heyday of feminine youth need not be measured by the quarter of a century. Under wise mental and physical discipline give the girl the opportunity for both physical and mental development, and not only this committee on sanitary science, but all the world would feel constrained to rise up and call that school board blessed who will scientifically divide the time between mental and physical culture.

But the schools are not all to blame. Parents should bear some share of the reproach, for many a time the mother's ambition is the curse of the child. I appeal to the good judgment of teachers and parents. Our nation demands each year more and more of its sons. Our aspiration is unlimited. We, the youngest nation, are forging shoulder to shoulder with those who have long since won high places in the battle of life. We want to be the Judah among the nations. Let us see to it then that the mothers are properly prepared for their great responsibility. To have a great nation, we must have great women.

Discussion.

O. S. Runnels, M.D.: The whole subject of young life in school should engage our earnest attention. As physicians, I am sure that there is no field which offers us such a wide scope and which should secure so much of our attention. I think we are dormant in this respect to a degree that is not to our credit. We hand over to the school board, the care and welfare of our youth, and do not rigidly see to it that their physical culture is carefully provided for. Education is not merely and solely a question of mental culture. A sound mind in a diseased body is not worth much. Physical inadequacy is a source of disappointment to the individual all the way. If one does not have the power to embrace the opportunities that are ever opening in his life, he is handicapped and defeated from the beginning. The most important thing is to have a sound body. If you can have but one—either a sound body without school culture, or school culture without a sound body—take the sound body and let the school culture go. With a whole life before you a great deal can be learned even if public schooling be lost. Where there is a good physical start in the race of life, something can be accomplished.

Are we not growing weaker, while we may be growing wiser? Every investigation along this line proves, I think, that we are not keeping pace bodily with the development of the mind. The whole trend of thought of the present day is to give a very advanced mental culture, but I say we should give greater attention to the development of the body, upon which all excellence depends. The whole problem depends upon nutrition. It means the growth of the body; it means the development of physical ability to the full in every re-

spect; it means the natural increment of avoirdupois. You must insist upon a steady increase of weight and a steady development and fulfilment of the original idea of the development of the body, if you are to get a basis for successful future operations. All school boards should have the predominating influence of professional people—medical people. No school board should be dominated by pedagogues exclusively. What is best for the pupil physically should be the predominating question. How are school buildings to be built, how shall ventilation be made perfect, and how shall all questions cognate to bodily welfare and development be settled so as to affect favorably the health of the pupil, are the paramount questions.

We have a great deal to say about what children shall and shall not do when they go to school, and how they shall be cared for. We must see to it that proper provisions are made for physical culture and then assure ourselves that they are properly employed. A gymnasium attached to the school is a good thing, but it can be made a fad of. I have known many girls damaged by gymnastics, and I have had to shield them from the mal-influence of heavy gymnastics at the certain period of the month. When you have once established health and vigor in the children, when you have developed them as far as their teens in an intelligent way and get them started nicely in the race of life, you have a right to say whether that body shall be polluted or torn down by any school rule. You cannot have universal vaccination without danger. Indiscriminate vaccination certainly should not be submitted to. In these days of quarantine and rigid sanitation the need of a sweeping rule compelling vaccination is not so manifest and the rights of weakly children at least must take precedence. This is in a very large sense an individual matter. I have long been lukewarm on this subject of compulsory vaccination. If we cannot send children to school without subjecting their blood to the dangers of pollution, we had better keep them at home. The courts are beginning to decide that boards of health have not the right to make such requisitions and doubtless we have reached the beginning of the end of that useless tyranny. At any rate the question is open; the discussion is still on, and the whole matter must be reviewed from the twentieth-century standpoint.

EDWARD BEECHER HOOKER, M.D.: This paper of Dr. Lewis's has virtually covered the whole subject. One of the first evils he mentioned was that of overcrowding. This makes worse the almost universal evil of faulty ventilation. If these two great evils were corrected, a very long step toward better school hygiene would be taken. More teachers are required. That is a matter of money, and in fact the correction of almost all the evils ultimately come down to that—the expenditure of more money. Our cities and states are remarkably liberal in the appropriations they have made for education, but yet to reach the position which we ought to reach still more money must be appropriated. I am in close touch with some of the best teachers of the day, and have talked

with them on these subjects. If each teacher had under his charge twenty or twenty-five pupils instead of forty or fifty, the result would be better in many directions. There would be much less forcing of scholars, more individualization and better physical conditions. I am convinced that the grade of teachers is becoming better and better, and that the evils of school life are dependent more upon the present system than upon the personnel of the corps. The danger of the spread of contagious diseases in school is largely lessened by the regulations so universally prevalent of reporting every case of contagious disease to the health board, or school officer, and having these cases isolated and other members of the family kept out of school. In that respect the school is a safe place to send our children, safer than the street cars the large stores or public places of amusement.

I was exceedingly interested in the paper of the gifted lady from Chicago, Julia Holmes Smith; and I want to say that when she appealed for women of character to bring greater elevation to our race, when she asked for the higher, nobler woman, physically and mentally, I said to myself, "Thank God, we have many such already, and we find some of them here in the American Institute of Homœopathy."

T. B. PERCY, M.D.: I have been led to think how many girls have been ruined for life by going up and down stairs. We ought not to have schools with stairs. Also young women should not be obliged to compete with young men every day in the month. They should not be obliged to study during the menstrual period. They should be allowed to stay at home and not be black-balled for it. There are a great many young women going out of school with impaired health, and I think a great deal of it done in that way. They should not be allowed to eat when they are tired. They eat hurriedly and go back again and they get dyspepsia.

BUSHROD W. JAMES, M.D.: I want to say a word or two in commendation of those glorious remarks just made by Dr. Smith, of Chicago. They are directly to the point and they ought to be treasured up by the members of this association in their professional work throughout their lives. I have seen the breaking down of your ladies who are aiming to receive titles, and who are trying to put a five years' course of study into four, or four into three, when they are physically unable to bear it, and of recent years it is growing. I have seen them entirely break down within a few months of the reception of their diploma and sometimes before, so that they have been unable to receive it, or probably they have broken down in a year or two of study, with neurasthenia, and probably never become good students or good mothers afterwards. The standard of education, while it is high and is aiming to be higher, makes no provision for those who are not able to compass the entire curriculum. The standard is made from the standpoint of the brightest students and that is

a mistake. It should be made for those who are not the brightest, the medium or majority class, and the number of years of persistent study should be commensurate with the ability of this majority, that is, of those who are in the institutions of learning, and not, what is now understood as the higher education. That is to put on all steam, put in all the studies you can, and then compel the mediocre student to come up to the established standard.

A. R. WRIGHT, M.D.: I wish to mention one point in regard to the examinations. The teacher and parent can confer upon this subject. It is not necessary for us to speak as physicians, for we all know the evil effects of it—the abomination of the examination. I have seen nervous children who began to worry in the first two weeks of the quarter for fear they would not get through their examination. The item I wish to refer to was the conferring of the parent with the teachers in regard to this subject, and that there is a reaction coming on against these examinations. It is coming as much from the teachers as it is from the parents. They are seeing the evil of it in the State of New York especially. The reaction is quite general against the examinations, as they are at present conducted. The evils to a nervous child are very great. If this subject is not agitated in the other states I think it is partly the fault of the physicians who have not brought it to the attention of the authorities. The school superintendents in the State of New York are considering very seriously of substituting some kind of marking that can be done by the intelligent teacher instead of the examination which makes the child so nervous at the close of the term.

The Kindergarten—How Early Should Children Begin Mental Work? —The Dangers of Overpressure.

By W. H. Hanchett, M.D.

The child begins mental growth with the moment of birth, and, in a sense at least, this is mental work, *i. e.*, the activity of the faculties with added power, as the end.

The scheme conceived by the founder of the kindergarten, provides for the child's mental work from the beginning; but it always provides a natural activity, such as the children call "fun." It is fun to do such things as afford an expression of the life which is within; thus it is a great joy to a small boy to make a snow-man, but not always fun to shovel the paths. The line that might be drawn here, you will say, is between work and play; and for the present discussion let us so consider it.

The mental work of the kindergarten is then mental play; but it is as valuable in its results to the child's mind as the other forms of mental activity which we grown-ups call work—aye, it is more valuable—it is, you know, actually easier to develop muscle by playing ball than by chopping wood.

To speak broadly, any mental work in the kindergarten which is not play should be handled with great care; but even if it is play, activity flowing through natural channels, unmindful of ultimate results, let us not test too easy. Danger is here. Intelligence is required. A perfectly normal child will not easily be led to play too long, or too hard, or in a harmful manner—but the normal child is a most uncommon specimen.

As before stated, mental growth begins way back where the little one first kicks out against his mother's hand, and kicks again because he feels her resistance and his own strength. Unconscious mothering is a great element in the child's mental development, and conscious mothering may be still greater, for, if he be the nervous child, the weakling, even here may overpressure begin. Babies are frequently cuddled, tossed and excited too much, and the less nearly normal their condition the greater their danger.

As the child grows older and gets into the nursery, he is still busy with his mental play, and needs the same careful guidance against excess, the same building up where he is weak, and guiding where he is strong; in short, the same intelligent mothering as when a little baby. It is about the time he passes his third birthday that he generally begins to claim some of the rights of citizenship—wants to get with some other big boys like himself, longs to be a member of a community. This is the scope of the kindergarten proper. The too nervous child may be unfit to take his place with a dozen other children at three or three and a half, and the precocious may, possibly be ready for it a little earlier.

This small community is a rather delicate organization. The most serious results may arise here, if the teacher does not realize the tenderness and susceptibility of these little minds, especially those of the type so common among us—the tense, nervous precocious child. Over stimulation is the great danger. Over stimulation through music, through color, through games. But a woman fit for the responsibility she has undertaken, will view each separate child as an especial study and regard his unmolested development as the one thing needful in his case. Thus the nervous may be calmed, the phlegmatic stirred, the flighty concentrated, and the slow quickened; because, here are all sorts of helps to the mental play which each child needs to lead him back to the normal.

The public school kindergarten will receive him at five years of age. Here the danger increases in proportion, as he is not a normal child. The kindergarten is a child garden, but the public child garden is so big, that we are trying to cultivate it like our gigantic Western corn fields, with double X patent, eight-bladed steam gang plows.

Individual plants, especially the weak ones, off color, do not flourish as well as by less complicated modes of "tending."

The usual form of overpressure, discernible among children, who have no kindergarten training, or only the experience of the mass, kindergarten has resulted from the decrease of their natural allowance of play work, and the increase of their share of work per se; that is, work in which the process has no interest to them, and the result of the work only a remote interest. (As for example; a boy learning the multiplication table, that he may keep accurate accounts when he is a man.) This form of abuse tends to leave children unimaginative and dull, nervous and irascible, or still more commonly makes the do-less, good-for-naught character, as it may chance to affect different children.

But you say, in effect at least, the multiplication table must be learned—the boy may make the snow-man, but he must shovel the paths; so when should real mental work begin?

In the mental play-stage the child gains a great amount of power. He can think clearly, imagine vividly, and concentrate for a considerable time. Now, these attributes are his to use. Now, he may will to do mental work, because he wishes a result. The success of his working depends *more* upon his accumulated power than upon his will. Just as the amount you give a beggar depends, in the ultimate, upon the amount you have in your pocket, rather than the times you put your hand in.

The willingness to do work or make continuous application when it is not fun, is a habit to be cultivated after a certain amount of power is gained, and all must admit it to be a habit of indispensable value, to which all successful men must attain. In the advanced work, the kindergarten may begin to cultivate this habit, but it must always be done with intelligence, lest the legitimate function of the kindergarten be destroyed. The primary school is its natural field, but no child should enter the primary school, or begin to do mental drudgery until he has reached such a development as will insure his safety from stupidity or nerve wreckage, which is the inevitable result of premature mental work.

In closing we would say, the child begins mental work in the beginning, the mother being his inspiration and guide; he continues with her in the nursery and passes at three and a half into the kindergarten, where he finds another play-mother as sympathizer and friend, and others of his own age. These have an influence much needed for his own social development. He is ready for the beginning of so-called mental work when his condition and not his age so declare; usually at about six and a half or seven years.

Much attention should be given at all times to posture and comfort of each individual;to ventilation, temperature and all hygienic and sanitary conditions.

Seating of Pupils in Schools.

By A. R. Wright, M.D.

The chairman of the Bureau has asked me to make a brief note on the injurious effects of incorrect seating of pupils during the study hour in schools. Permanent deviations from the normal, healthy position are what we might expect and what we find, in many cases, from the above mentioned cause. The strong, vigorous child with plenty of out-door exercise will not suffer, perhaps. But unfortunately, there are others whose tissues have less resisting power than the healthy child's whose cartilages are soft and yielding, and who from general weakness are easily fatigued; the child with perverted nutrition and a tendency to what has been called the strumous diathesis. Give this child a badly fitting seat and desk, or allow him to take a false position through fatigue or a careless habit, tilting the body to one side or stooping forward over a low desk and he will surely tend to permanent deformity. The orthopedic surgeons will tell us that most cases of scoliosis and trunk deformities occur in children before the school age. Let this be granted and yet in our cities especially, we find during the school age a great many cases of scoliosis, mostly girls. In my experience I can recall only one case of a boy. And the change is so insidious that the curvature is well fixed before it is recognized. In many cases, the dressmaker is the first to notice it.

Also the habit of stooping shoulders, which may be induced by the desk being too low or too far forward may produce a serious deformity. This bending forward a long time may have a bad effect, too, in pressure on the heart, lungs and abdominal organs.

A Boston physician interested in schools noted that the girls of a certain high school, on the street just after school hour, had a careless slovenly gait and stooping shoulders, whereas in the grammar school, from which they had graduated only six months previous, their gait and positions were good. The sudden change was explained by finding on examination that the high-school desk by being

too far forward, obliged them to bend their bodies forward, and thus acquire an awkward gait.

A desk too nearly horizontal may in time injure the eyes by obliging the light to enter at an improper angle, or oblige the child to bend forward too much. This subject of the eyes, however, will be treated by another member of this bureau.

But the deformity most generally noted as the result of faulty position in the schoolroom is scoliosis. On this subject Prof. Eulenberg, a distinguished orthopedic surgeon in Germany, says that 90 per cent. of all cases of spinal curvature, not due to special disease, occur during school life. In Switzerland, Liebrich says that 20 per cent. of the boys and 40 per cent of the girls have one shoulder higher than the other. Bernard Roth, an orthopedic surgeon of an immense practice in London, England, substantially confirms this testimony. For confirmation of a similar prevalence in this country, I believe you would only need to consult your note-books and visit your public schools. We may hope for an improved condition in the near future, as in the newly erected school buildings more perfect seating is required, and superintendents and teachers are giving the subject more attention.

In the cases of the above-mentioned defects, what is the remedy? First, an intelligent, observant teacher can do much in correcting faulty positions, such as tilting the body to one side, bending forward, etc., by suggestion and direction to such pupils in the way of free manual exercise, calisthenics, etc. This to girls especially. Again, every twenty minutes all the pupils in the study room should be required to stand erect in the aisles, raise the hands above the head and put them behind the back once, children in the primaries at shorter intervals. When they are thoroughly drilled, this need not require more than one minute, and may be invaluable to the children, notably to all of a weak, poorly developed physique.

But the most important point for an easy safe position is the seat and desk. To have these properly adjusted to the pupil's body and work, the best school-furniture men make requisites very nearly as follows: 1st, the seat should be at a height to allow the foot to rest flat on the floor, the thigh lightly on front of seat, with the knee at right angle, the seat at a width to support nearly the length of the thigh, lower at back so that child may not slip forward, front edge beveled or rounded. The back starts perpendicularly upward for a distance sufficient to support the sacral and lumbar regions; "small of back." From this point upward, the back should slope backward at an angle of 10 degrees and to a height sufficient to sup-

port the shoulders. The desk in front should be of such a height as to give a normal swing of the elbows one-half inch below edge. The edge of the desk should lap one-half inch to an inch over the front edge of the seat.

What shall be the angle of inclination of the desk? For writing it should be 10 to 15 degrees; for reading 40 to 50 degrees; hence we might compromise at 20 degrees. Other conditions might demand less than this. The desk nearly horizontal is, I believe, the more general favorite of the teachers.

The above measurements and requisites are substantially the recommendations of D. F. Lincoln of Boston and give about as perfect a seat as can be made.

There is unfortunately another difficulty to be overcome. The grading of a school is made according to proficiency and attainment in study and not for the physical proportions of the pupil. This will necessitate different sizes of seats in each grade, a condition perfectly met by the adjustable seat manufactured by the school-furniture men. This seat can be adjusted to any size by the school janitor in five minutes. One-fourth to one-third of the seats in each grade should be adjustible. At the Buffalo School Furniture Co. they cost only thirty-five cents more than the stationary seat, the prices being $2.75 and $3.10 respectively, and every school committee should be obliged to furnish a proper number for each grade.

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Osteomyelitis.

By Horace Packard, M.D.

Introduction.

First Narrative.—About two years ago, while on a visit as a consultant in a suburban hospital, I was asked incidentally, by one of the staff, to see a case of bone disease. On being introduced to the patient, a denuded area two or three inches in diameter, just below the knee, was exposed to my view, which had been the site of an operation by the attending physician a few days previously. This operation had consisted in opening multiple sinuses, which had for a long time burrowed beneath the skin, and the removal of thin, necrotic, overlying integument. Upon interrogation I learned that, eighteen years before, the patient suffered from what was then called rheumatism, which had followed undue exposure, and had affected the right leg just below the knee. Recovery followed after the lapse of three months. For fourteen years he remained well. Recurrence of the trouble then transpired, with swelling, spontaneous opening, and suppuration. After a four months' illness he was able to resume his work. Four years later, which brought the case to the date of the present attack, the parts below the knee again became swollen and painful, pus exuding through three openings. The knee-joint had not at any time been invaded, and at the time of my examination was flexible. Exploration disclosed an opening extending through the compact bone and into the head of the tibia. A diagnosis of chronic osteomyelitis was rendered, with the advice to expose the anterior surface of the tibia, chisel away the bone, expose the abscess cavity beneath, and establish free drainage. I learned later that the case afterward entered another hospital, where an off-hand diagnosis of "tuberculosis" was rendered, and the limb amputated. This was a

typical case of spontaneous osteomyelitis which had drifted into chronicity.

Second Narrative.—In July of 1898 a boy of 12 years sought treatment for some obscure malady of the right leg, supposed to be rheumatism. The initial symptoms had been severe pain about the knee, followed by a temperature of 103⅗° F., pulse 126, headache, delirium, heavily coated tongue, dry lips, and diarrhea. These had appeared suddenly, following long immersion and chill in swimming. Just above the knee there appeared later an area of induration and red discoloration. The leg was flexed and rigid. With the first symptom of pain, just above the knee, or referred to vaguely by the patient as in the knee, a diagnosis of rheumatism was made. Later, with the onset of dry, heavily coated tongue, high temperature and pulse, the case was thought to be typhoid fever. With the muttering delirium, rheumatic meningitis was suggested. Finally, when a swelling appeared just above the knee, with fluctuation and discharge of pus, the case was diagnosed as tuberculosis, and the abscess cavity freely opened and scraped out. This was a typical case of acute osteomyelitis.

Third Narrative.—About the 25th of December of last year a strong, robust man, a physician in one of the large cities of Massachusetts, was prostrated with a severe, deep-seated, agonizing, boring pain in the thigh. He had had, a few days previously, a tedious and exhausting case of confinement, incident to which he had gone without food or sleep for an unusual period. In the early morning following the labor he took a long drive to visit another patient, and became thoroughly chilled. He was seized with a pain in his thigh, so severe that he succumbed at once to it and sent for a brother physician. The case was thought to be sciatica. The pain was so intense that he resorted voluntarily to morphine. After the lapse of a few weeks swelling along the middle portion of the femur was apparent, pain diminished, but tenderness on deep pressure continued. The enlargement was fusiform, had appeared rather suddenly, but with it came partial resumption of the use of the leg, which had been entirely incapacitated during the acute stage of the attack. The case was then thought to be osteosarcoma, and the possibility of hip-joint amputation suggested.

At this juncture the case fell into my hands. In view of the obscurity of the malady, and the fact that the early symptoms did not fully confirm a theory of sarcoma, an exploratory incision was made. The microscope showed that the tissue removed was not

sarcoma, but was purely inflammatory. Further exploration demonstrated that the case was osteomyelitis.

All the cases above briefly enumerated are examples of osteomyelitis. Two were typical cases, regarding which there could have been no question from the beginning. The third was obscure in the highest degree. This is my apology for bringing this subject, osteomyelitis, to your consideration to-day. In the first case a leg was sacrificed because of error in diagnosis. In the second an osteomyelitis was treated as rheumatism, typhoid fever, rheumatic meningitis, and tubercular abscess. In the third case a physician was in imminent danger of losing a limb, and perhaps his life, from a projected hip-joint amputation. These cases are not presented in any spirit of criticism, but only to illustrate the state of apathy which at present exists in the profession regarding a fairly common disease. This subject has been chosen from a somewhat selfish motive, for I desire to learn the opinion of my colleagues upon a matter which is to me of the utmost interest.

Synonyms.—Osteomyelitis, medulitis, endosteitis, osteitis interna, phlebitis of the bone, bone abscess, pseudo-rheumatism, bone typhoid, bone furuncle.

Explanatory Note.—In this paper the spontaneous form only of osteomyelitis will be considered. For a long time an inflammation of the bone marrow and the bone itself, especially prior to the days of antiseptic surgery, has been recognized as a sequel to operations involving bone. Unclean instruments, hands, ligatures or sponges, engraft pyogenic micrococci within an amputation wound. Suppuration follows, the wide-open medullary canal is an inviting path for extension of infection, and post-operative osteomyelitis follows. The "Surgical History of the War of the Rebellion" is rich in illustrations of cases of osteomyelitis following bullet wounds in bones and operations upon injured limbs. There is no obscurity regarding bone inflammation of this character. Such, however, is almost unknown at the present day, with modern perfection of surgical technique. It is the *spontaneous variety of osteomyelitis* only which interests us at the present time. This occurs without apparent cause, appears unheralded, without direct infection, mostly in childhood and youth, and is seldom met with after the skeleton becomes fully ossified.

Pathology.—Osteomyelitis is now known to be the result of microbic infection of the bone marrow. In the plainest and simplest terms, it is a bone abscess. It is found in the long bones, and most frequently at the epiphyseal junction in the lower end of the femur and the head of the tibia. Nevertheless, it may be met in any of the

long bones, and at any point along the medullary canal. It is estimated that seventy-three per cent. of all cases are located in the femur. A series of bacteriological examinations of the pus from cases of osteomyelitis all show the presence of micro-organisms, and more frequently than any other the ordinary pus-producing staphylococci.

As I have said, a large number of cases of osteomyelitis occur spontaneously, *i. e.*, without any apparent cause. After the disease is well established it will usually be remembered that the patient has been subjected to some extraordinary fatigue, or has, when in an overheated state, suffered sudden lowering of bodily temperature through indiscreet bathing, reclining upon damp, cold ground, or exposure to a chilling atmosphere without suitable clothing.

Now and then an osteomyelitis follows quickly after the appearance of a boil upon some part of the body. Indeed, the semblance is so striking between a boil and an osteomyelitis that the latter has been called bone furuncle. Bacteriological examination shows identically the same microbic infection, and the gross pathological process is the same, modified only by environment.

Osteomyelitis occasionally follows an attack of some acute febrile infectious disease, as typhoid fever, scarlet fever, variola, chicken-pox, measles, pneumonia and diphtheria. The typhoid bacillus has been found in the pus of osteomyelitis, also the pneumococcus. The disease is very infrequent after diphtheria, one case only having been reported. It has frequently been observed after variola. In such cases of the latter as have been examined the ordinary pyogenic bacteria have been found, presumably in addition to the specific variola organism which has not yet been isolated. During the past few years attacks of grippe have in rare instances been followed by osteomyelitis. From what has already been said, the inference must be drawn that in so-called spontaneous cases of osteomyelitis the infective material reaches the bone marrow by the way of the circulation. This is quite within the bounds of reason where it occurs as a sequel to contagious diseases, for it is an established fact that the specific microbes of such infective diseases are distributed widely through the blood currents. Their lodgment in some favorable point in the bone marrow would appear to be only a matter of course. How pyogenic bacteria reach the circulation in cases not preceded by furunculosis or general contagion is often difficult to divine. It may be by way of the respiratory tract or the intestinal canal. Kocher fed putrid matter to dogs, and succeeded in producing osteomyelitis, in some cases, at the site of experimental fracture.

The prevalence of osteomyelitis in childhood and youth, and its

location at the epiphyseal line of long bones, is supposed to be due to some favorable condition existing in that location and at that time of life. It is the time and place of rapidly developing bony tissue. Bone cartilage and new capillaries are building up to provide for the natural growth. This newly formed tissue is supposed to be less resistant to the attack of bacteria than maturer structures. It is conceded that the common bacteria of suppuration, the yellow and white micrococci, even in health, are liable at all times, in moderate numbers, to be circulating in the blood current. Depression of vitality from any cause (sudden chilling after the patient has become overheated or exhausted from exertion) destroys the equilibrium, and localized abscesses within the medullary cavity of the bone follow. Such an abscess differs from a pyogenic abscess elsewhere only on account of its environment. The pyogenic organisms find a suitable pabulum for their growth and multiplication in the medullary tissue. The normal tissue is destroyed and a pus cavity is formed, all within the dense, unyielding shell of compact bone. The microbic infection extends along the Haversian canal, intra-osteal pressure is augmented, great pain follows, little by little, at some point, the compact bony tissue breaks down and gives way, until perforation follows. The periosteum is then infected, also perforated, and the pus becomes disseminated through the soft tissues overlying the point of perforation of the bone. Thus the microbic infection is first an osteomyelitis, then an osteitis, later a periosteitis, and finally a diffuse abscess, infiltrating all the surrounding soft parts.

The Involucrum.—Coincident with the approach of the destructive inflammation to the periosteal covering of the part of the bone affected, activity occurs in the production of new bone. A peripheral layer of osseous tissue forms all over and around that part of the shaft which is menaced. In extreme cases the whole diaphysis dies and separates from the epiphysis. Nature, in anticipation of this, provides an envelope of new bone—the involucrum—which perpetuates the form and outline of the limb, and finally, if the patient's life continue, and the limb be saved, takes the place wholly or in part of the destroyed shaft.

The Sequestrum.—The portion of the shaft which has been destroyed is thus surrounded by the involucrum. In other words, it is sequestered. It remains thus a long time buried—a dense mass of bone, disintegrating, but slowly—a foreign body, a focus for microbic germination and suppuration. Bit by bit it finally crumbles and finds its way out through the sinuses which nature has provided.

The Cloaca.—The involucrum never forms an impermeable en-

velope about the sequestrum. One or more apertures are maintained —conduits for the exit of pus and cast-off spiculæ of the sequestrum. These cloacæ are always inadequate, easily obstructed, and provide but poorly for the overflow.

Spontaneous Fracture.—It sometimes occurs that the destructive progress of the disease is very rapid and the formation of the involucrum is slow. As a result of voluntary movements of the limb in bed, fracture of the weakened bone may occur. It is my belief, though, that this is very rare; for the patient guards the tender, painful limb most carefully.

Clinical Picture—Symptoms.—The train of symptoms of an ordinary, acute, spontaneous osteomyelitis are so clear and unmistakable that there should rarely be a mistake in diagnosis. It is true that in acutely virulent cases the early symptom of localized pain may be overlooked, or forgotten, or shrouded in the more disquieting sequelæ of delirium, dry tongue, high temperature, rapid pulse and diarrhea. With the presence of such a profoundly toxic condition the very earliest symptoms should be zealously sought and every move of the patient in the days immediately prior to the onset of the attack diligently scrutinized. The patient is, in a large percentage of cases, a child or youth. The first symptom is a localized pain in one of the long bones at its epiphyseal line, and usually it is the lower end of the femur or the upper end of the tibia, so near the knee-joint that the patient sometimes refers it to that articulation. More than one bone may be simultaneously affected, but usually there is but a single point of infection. The patient complains of pain in the affected part, but there is no swelling in the first days of the attack and no evidence of inflammation. As the days go by the pain intensifies until it is out of all proportion to the apparent local conditions. The limb is at once and totally disabled. The patient rebels against any suggestion even of disturbing it in any way, complains of the jar of persons walking about the room, vibration of the bed, and the weight of the bedclothes. He cries in agony; the suffering is intense, the temperature rapidly increases, the tongue becomes heavily coated, delirium and diarrhea ensue. Fatality may supervene within a week of the initial symptoms. If the patient does not succumb, there appears rather suddenly, sometimes within two weeks of the initial symptoms, swelling of the soft parts in the immediate locality of the pain. The skin becomes livid, fluctuation is presently apparent, and an exudation of pus occurs spontaneously or as a result of puncture with a scalpel. With the appearance of the swelling and peripheral inflammation, the intensity of the pain is modified, and

with the discharge of pus great relief follows. The temperature falls, the tongue clears, delirium, if it has been present, vanishes, and the patient's general condition radically improves. From now on one of the two following-described sequelæ ensues, viz.:

First. After the lapse of weeks or months repair may occur, with resumption of perfect function of the parts involved; or,

Second. The case drifts into a chronic state; the abscess cavity does not heal, sinuses of the soft parts multiply, the neighboring parts are gradually encroached upon, the adjacent joint participates in the inflammation, etc.

Recurrence long after recovery from the original attack sometimes occurs. An acute case goes through all the phases of an osteomyelitis; repair and final recovery follow. After the lapse of years, with or without apparent reason, deep-seated grinding pain develops at or near the original site, with a repetition of abscess, sinuses, swelling, extension maybe to neighboring joints, permanent impairment, and possibly loss of limb.

Four years ago a recurrent case sought surgical aid. It was of unusual interest, in that fourteen years had elapsed after the acute attack, during which the limb was perfect functionally and showed no trace of the original trouble except a cicatrice. The second phase of the abscess was induced by a night-before-the-Fourth frolic about town. It came to my observation fifteen months later, having then destroyed the knee-joint, extended the whole length of the shaft of the femur, and showed multiple sinuses, five in number, opening in various directions about the knee.

The past winter a case came under my observation in which, seven years before, an osteomyelitis of the humerus had recovered, but left the shoulder- and elbow-joints anchylosed. Scars of many sinuses were visible about the shoulder, axilla, and along the upper arm. At the time of which I speak a deep-seated, constant pain along the shaft of the humerus had developed, tender on deep pressure, no remission of pain day or night. Thoroughly convinced that it was a recurrence of osteomyelitis, I exposed the anterior surface of the humerus, chiselled through it, and out gushed pus. Up to this time no swelling or reddening of the soft parts was manifest.

Diagnosis.—The diagnosis of a case of osteomyelitis is, as a rule, easy. There are now and then obscure cases which run an atypical course. Its occurrence almost exclusively in childhood naturally leads one to watch with great circumspection any acute attack of pain in the long bones, such as on first contemplation might appear like rheumatism. In adults it is very rare as a spontaneous

affection, and yet it must be borne in mind that it occasionally occurs. The persistent, intolerable, torturing pain located in a long bone should awaken the gravest suspicion of an osteomyelitis. Pain of this kind does not ameliorate; it continues day and night for a week or ten days. The patient is obdurate in his demands for relief. (In the adult the location of the pain is quite as likely to be along the shaft of the bone as at, or near, one extremity—the conditions no longer exist which render the osseous structure more pregnable at the epiphyseal line. The developmental years of childhood have passed, ossification is complete, one part of the medullary canal is as liable to be the focus of infection as another.) At the expiration of ten days or two weeks an abatement of pain, simultaneously accompanied by a rather sudden swelling of the adjacent soft parts, is a convincing point in diagnosis. I am in doubt whether the temperature and pulse constitute a guide of any reliability. It has been my observation that in some cases, especially the rapidly fulminating ones, a marked elevation of temperature and pulse accompanies the disease, while in other cases the change from normal conditions is but slight. It is considered that the temperature of osteomyelitis is subject to less marked evening exacerbations than in typhoid fever or acute rheumatism.

Differential Diagnosis.

OSTEOMYELITIS.	ACUTE ARTICULAR RHEUMATISM.	TYPHOID FEVER.
Common in childhood and youth, rare in adults.	Common in childhood and adults.	Common at any age.
Pain continuous, agonizing, localized in a long bone, near, not in, the joint.	Pain usually in more than one joint, changes from original location and varies in intensity.	No localized pain in any bone or joint.
Swelling and redness appear late, after lapse of seven to ten days, and with it pain ameliorates.	Swelling and pain appear with first symptoms; pain ameliorates as swelling diminishes.	No localized swelling or redness in any bone or joint.
Swelling and redness usually terminate in suppuration.	Swelling and redness fade away without suppuration.	
Delirium sometimes present, and occurs early within the first week, may be the third day.	No delirium.	Delirium sometimes present, but rarely occurs before the second week.
Temperature does not fluctuate, and as a rule does not go high, rarely above 102-3°.	Temperature runs low, 101°, rarely 102°, without marked fluctuation.	Temperature high at night, low in the morning, reaches 104° and higher.
Diarrhea early, especially in profoundly septic cases.	No diarrhea.	Diarrhea in the first week of the attack or later.

Prognosis.—The prognosis in a case of osteomyelitis is, under modern methods of treatment, favorable. In childhood and youth, with the usually excellent health which is present at that age, the treatment of the disease on modern lines, *i. e.*, prompt recognition of the pathological processes and equally prompt surgical interference, should save every case. Under the old methods of treatment, with tardy diagnosis and surgical interference withheld, there is a recorded mortality of 23.3 per cent. We may hence conclude that with modern enlightenment regarding the pathology of the disease, coupled with intelligent surgical treatment, the prognosis is excellent for preservation of life, and for recovery without serious defect.

Treatment.—In a case of osteomyelitis the physical environment of the focus of the disease must be accepted as the determining element in deciding upon treatment. There may, and probably will be, in every case a lapse of a day or two following the first onset of symptoms before the diagnosis is made, or, indeed, before the physician sees the case at all. In this period of doubt, abortive medical and local treatment may be efficacious and should always be employed. According to experience with similar acute inflammations elsewhere, belladonna internally and a cold pack about the infected parts should do good in retarding the progress of the inflammation, if they do not wholly arrest it. After a diagnosis is made, resort promptly to surgery. Remember that we are dealing with a pyogenic abscess, with rapid germination of micro-organism and equally rapid pus accumulation. This is all imprisoned within the dense compact bone surrounding the medullary canal. A free opening through the overlying soft parts and trephining, or chiselling through the bone to the medullary canal, gives exit at once to the septic pus accumulation, and relieves as quickly the menace to the patient's life. This, of course, is simply following out nature's example, only anticipating her and doing it better than she does it. If the abscess is allowed to take its own course an outlet finally forms spontaneously, though inadequate for the best results in drainage. A promptly made artificial opening early in the disease, so fashioned as to expose fully the deepest recesses of the cavity, together with a thorough disinfection with peroxide of hydrogen, or formalin, should remove the menace to the patient's life and establish convalescence, with prompt and satisfactory repair. In the chronic form of spontaneous osteomyelitis, after all the stages of development have been passed through, and immediate danger to the patient's life has been averted, we can then deal more deliberately with the case. A chronic abscess of the medullary cavity communicates externally through the bone sinus and one or more

sinuses of the overlying soft parts. (Inadequate drainage is thus perpetuated.) The external apertures of the sinus in the soft parts may not coincide in location with the sinus in the bone. A secondary pus cavity sometimes exists between the external surface of the bone and the skin. Indeed, a secondary periostitis will have long ere this existed, but an involucrum of new bone will have formed beneath the periosteum and all over that part of the shaft which has undergone destruction. Under such circumstances the soft parts should be widely laid open, the lips of the wound retracted, all sloughing and pyogenic tissue curetted away, the sinus extending into the bone sought for, and with gouge and chisel enlarged by cutting away the surrounding bone, and free access established to the cavity beneath. The bone chiselled away may be wholly newly formed tissue—involucrum. In case the sinus communicating with the interior is not readily found, an opening should be boldly chiselled down through the presenting bone until the abscess cavity is reached. Within the cavity may be found spiculæ of necrosed bone—sequestra. Sometimes small sequestra are found, at other times enormous ones. Occasionally the whole, or nearly the whole, of the shaft of the infected bone is thus cast off, its function for the support and outline of the limb having been assumed by the newly-formed involucrum. The bony walls surrounding these abscesses become, in these chronic cases, extremely dense—eburnated. With such wide opening and removal of necrosed bone the resulting cavity is slow to undergo repair. If healing occurs at all it must be by the gradual filling of the cavity with granulations, and the slow growing over and into the cavity of epithelium. The tendency is for the soft parts outside to contract and cover the wound superficially, still leaving the cavity beneath. As long as the external wound remains wide open, and the cavity is daily syringed, the patient does not suffer, except from the annoyance of the discharging sore. The limb may recover its function and the patient be otherwise well. Various devices for the purpose of expediting repair in these annoying cases have been resorted to. Shedd's method of repair with the aid of an aseptic blood-clot and Senn's method of bone grafting have been exploited with indifferent success.

Shedd's Aseptic Blood-Clot.—In this method, after the bone cavity has been thoroughly cleaned out and made aseptic through the use of chemical antiseptics (this is an inexorable condition), it is allowed to fill with blood, the soft parts are tightly closed without drainage, and the wound is left to itself. The blood forms a clot which serves as a matrix for connective tissue, blood-vessels, bony

deposit, and final obliteration of the cavity. There are so many possibilities of a slip in this method that it is a very unreliable scheme. To begin with, the surrounding tissues, the bone involved, and in fact the whole field of operation, is septic. A blood-clot remaining within such a cavity is a most putrescible and infective material; and the likelihood of such infection occurring, with subsequent breaking down of the clot and bursting open of the wound, is so great that the method is rarely resorted to nowadays.

Senn's Method of Bone-Grafting.—This consists in packing the cavity, which has previously been made as aseptic as possible, with decalcified bone-chips. A bullock's bone is macerated in benzine to remove the fat, decalcified in dilute hydrochloric acid, then cut up into small chips. These are sterilized by soaking in carbolic acid, sublimate, or formalin solution, washed in sterile water, then packed firmly into the bone cavity, filling it to the brim. The wound is then tightly closed over this, and the interstices between the bone-chips are allowed to fill in with blood. Under favorable conditions organization takes place, blood-vessels permeate the interstices, and obliteration of the cavity results. The same difficulty is met with here as before, namely, the difficulty of rendering the cavity sterile, and the danger of the packing becoming infected, pus forming, and bursting open of the wound.

Cases.—A report of a long list of cases, many of them almost identical in symptoms and career, is of little value as supplementary to an article of this kind, hence I will not take time and space to portray more than a few typical cases. These may well be divided into:

Acute, with fatality; acute, with recovery, with operation; chronic, a continuation of the acute attack; chronic, a recurrence months or years after recovery from the acute attack.

An Acute Case with Fatality without Operation.—The first case of osteomyelitis which came under my observation occurred years ago, early in my professional career, and before our present ideas of the origin and cause of the disease were established. A man of about 50 years of age, a baker by trade, was prostrated by a sudden attack of pain located just below the knee. This was the sequel to an exhausting march in a procession, in which he became greatly fatigued. A chill followed, with the development of the painful symptoms before mentioned, and the trouble was diagnosed as rheumatism. He rapidly developed a high temperature and rapid pulse, extreme dryness of the mouth, heavily coated tongue, delirium and diarrhea. After the lapse of four or five days swelling and redness

of the soft part below the knee appeared, and almost simultaneously a pyemic abscess of the lung. Death promptly supervened. This was a typical acute fatal case of osteomyelitis, occurring in an adult. It ran a natural course, apparently uninfluenced by treatment, and without surgical interference.

An Acute Case, with Recovery with Operation.—Master Willie L. D., aged 14, experienced on rising one morning a day or two following a romping game of football, a painful sensation about the ankle, accompanied by slight chilliness. The next morning, on rising, he again was cold and chilly, with increase of soreness and pain. His temperature was 100°, but no swelling of the ankle was observed, although it was somewhat tender on deep pressure. Two or three days later the ankle began to swell, becoming especially painful at night. When I was called in consultation there was decided swelling and fluctuation over the lower part of the tibia, just above the ankle-joint. Operation was advised and performed without delay. The soft parts were incised longitudinally, the bone exposed, and a sinus found leading to the medullary canal, which was widely enlarged by chiselling away the surrounding bone. An appreciable involucrum had formed about the involved part, and, within, a sequestrum of considerable size was removed. The ankle-joint was not invaded. The whole cavity was thoroughly cleared, and the wound left widely open and packed with gauze. It was dressed daily thereafter, and irrigated with peroxide of hydrogen. Recovery slowly followed, and has been permanent during the three years which have elapsed since the operation.

A Chronic Case, a Continuation of an Acute Attack.—Mr. W., aged 48, had the initial attack thirty years before. It commenced with a chill, followed by agonizing pain just above the knee, which was finally relieved through the spontaneous discharge of pus. A sinus had persisted all these years, with periodical discharge of bony spiculæ. The disease involved the knee-joint years before, and anchylosed it. For many years the disease had remained quiescent, but in the last few weeks it assumed a threatening character, with a profuse offensive discharge and great swelling of the soft parts. Operation was advised and performed, with the idea of relieving the immediately acute and threatening condition. A longitudinal incision was made along the lower part of the shaft of the femur, exposing the epiphyseal portion. A very extensive and dense involucrum was found, with a narrow cloaca extending to the cavity beneath. This was widely enlarged and the freest possible exposure of the abscess cavity effected. Sequestra were found within and floods of pus.

After thorough cleaning out and chipping away of all diseased bone, a cavity of four or five inches in length remained. Great improvement in condition followed, the wide-open aperture permitting daily irrigation. The swelling of the soft parts rapidly diminished. About seven weeks after, the bone cavity still remaining without prospect of filling in, Senn's method of bone-grafting was resorted to. The cavity was again cleaned out by curetting and disinfection with peroxide of hydrogen solution, and lastly with salt solution. The cavity thus cleaned was packed with aseptic decalcified bone-chips and the wound closed. This resulted in total failure as far as the end sought for was concerned. The wound reopened, the chips were discharged, and daily irrigation was again resorted to. Subsequent exploration of the cavity showed that a portion of the bone-chips had become adherent all over the interior, with profuse granulations springing up all about and over them which were extremely sensitive to touch. It was my wish and desire to follow up this case, and with the advantage thus gained again resort to bone-grafting, but with the termination of my hospital service at about that time the case fell into other hands and amputation was performed.

A Chronic Case, Recurrence Months or Years after the Acute Attack.—Mr. A., aged 30, had an attack of osteomyelitis, located at the lower end of the femur, at 14 years of age, induced through exposure in running through the snow without shoes or stockings as an act of bravado. The ordinary symptoms of osteomyelitis supervened, namely, acute, severe pain above and about the knee, fever, and finally a swelling and discharge of pus, which continued over a period of months. Recovery followed, with healing and perfect use of the limb. No trouble was experienced for fifteen years, when, after an indiscretion in a nocturnal frolic, pain again appeared in the old locality, followed by swelling and discharge of pus. There was gradual but steady progression of the inflammatory condition over a period of thirteen months, until, when the case came under my observation, there was a fusiform swelling extending above and below the knee, with many sinuses opening above, in front of and back of the knee-joint. From the long confinement indoors, and the drain upon his system, the patient was in a wretched physical condition. Exposure by incision was made, and it was found that the medullary canal of the femur was invaded through its whole length. The knee-joint was completely disorganized. Hip-joint amputation was decided upon and performed, with uncomplicated recovery.

Discussion.

Charles E. Walton, M.D.: I think I can be heard here—what little I want to say—upon what is left to say upon the subject. I would like to throw bouquets at Dr. Packard. He has treated this subject exhaustively, and really I do not want to take up the time to discuss it.

As it is so late, Doctor, and as we can study this in the *Transactions*, and as there are so many other papers to present, I don't care to discuss the paper any further.

Geo. F. Shears, M.D.: Dr. Walton has expressed my views as to the completeness of this paper and as to the difficulty of adding much to the author's admirable résumé of the subject. Not being a funny man, I can't, of course, amuse as Dr. Walton has, and therefore the few words I have to say must be confined to deductions he made in the paper.

The author considered the subject of osteomyelitis and gave us a résumé of the treatment, etiology, pathology, history, symptoms, etc., but his intentions, he says, were to place emphasis on the symptoms, diagnosis and the treatment, and he has asked us to confine our remarks to the acute suppurative form, as it is termed, thereby eliminating from discussion that large class of cases that come under the head of tubercular osteomyelitis. There can be no doubt that osteomyelitis is an infective disease, although it may be difficult to trace the infection from start to localization, and it is equally certain from pathological examination and clinical observation that the disease in a large majority of cases, so far as its local manifestations are concerned, commences at the junction of the epiphysis and diaphysis of the long bone and ordinarily on the epiphyseal side. If it is not attended to promptly it extends along the bone and periosteum, and the whole shaft becomes diseased. It seems to me that it is this fact that it is infective and that it does start at this particular point that gives the hint to diagnosis and treatment. If it is infective there is first a development at some local point with deep-seated pains, heat, tenderness, swelling and rising temperature, subsequently there may be septic or pyemic conditions, which may produce disease in other localities, but the first trouble is local. If we were to consider the deep-seated pain at an early period and, taking that for an indication, hunt for localized tenderness, there would be no trouble in making the diagnosis. At this stage there is no swelling, subsequently there is swelling and infiltration, which may give the appearance of synovitis. Rarely there is a serous synovitis, but not until the disease has made some progress. Faulty diagnosis is usually due to failure to observe the early symptoms or failure to obtain a clear history of the case, and it is the value of careful observation of the early symptoms that I wish to emphasize. The trouble commences near a joint, it is confined to one locality with local tenderness at an epiphysis of a long bone accompanied by a rise of temperature, but no swelling at first. These symptoms

cannot be mistaken for rheumatism, for typhoid fever or any of the other troubles that have been indicated to-night. These points, its infective character and its early location should give us a hint as to treatment. If it is infective, and the first evidence of its presence is pain due to the pressure of an effusion, which soon will be or is pus, the first indication is to get rid of the confined fluid, and this procedure should not be delayed until the external swelling indicates that the disease has made an exit for itself through the bone and periosteum, for this usually does not take place until irreparable damage has been done. Unfortunately, the line of least resistance is along the medullary canal. You remember that the disease starts on the epiphyseal side of the cartilage and it may take but a few days for the whole canal to be infected and the medullary lining to be destroyed. The disease then reaches the periosteum and, finding it easier to separate this membrane than to pierce it, runs between it and the bone to the other epiphyseal extremity, and then the entire shaft, its endosteum and periosteum being separated from it has no nutrition and it dies as quickly as a tree that has been girdled. Early excision is the only treatment. Cut down to the disease at once and the trouble can be limited to epiphyseal-diaphyseal junction. I had a patient who illustrates the early and late methods, a boy of ten years old; he was allowed to go on for two weeks with a case of osteomyelitis, when he was brought to the clinic and an operation made. It was found that the whole shaft of the tibia was destroyed and had to be removed. He recovered. Two years afterward he was seized with a sudden boring pain in the opposite tibia, near the knee. Remembering the former experience, he was brought to the clinic two days after the appearance of pain and the operation was made, a very small abscess was opened near the diaphyseal and epiphyseal junction, the diseased bone curetted and the patient recovered without any loss of function whatever. In regard to Shedd's method of cure, I have used it once or twice in cases of adults, but it can only be used in those cases in which the disease is limited and in which there is a hard, firm, dense area, from which disease can be absolutely removed. In those cases it is a very excellent method of treatment.

W. S. Briggs, M.D.: I was called to Wisconsin to see a boy 12 years of age who had broken out very extensively with chicken-pox on Tuesday. On Wednesday the rash had all receded and there were no marks with the exception of two or three spots. On Thursday he went with his father to see the effects of a cyclone, which had been in the neighborhood. They drove about four or five miles and, as they came back into the village, the boy complained of being sick. The father took him into a physician's office. As his temperature was 104° he was immediately ordered home. His temperature never went below that point. Dr. P. said it was 103 as a rule, but in this case it was 104 when he was on the street. I saw him on the fifth day; it was 105 in the rectum; it had been as high as 107° F. He had all the symptoms, delirium, diarrhea, etc., given by Dr. Packard. He complained only of the left thigh. That was the only pain

he had. There was no swelling, but tenderness on deep pressure and on moving him. It went on into a multiple abscess and the boy lived until the eighth day. It had then attacked both arms—the humerus of each arm—and both clavicles. He died on the eighth day with a temperature of 108. It came from what we generally term a trivial disease—chicken-pox—and there is no question about the disease, as three other children in the same family had it.

H. P. Cole, M.D.: Adopting the language of Dr. Packard, I have a narrative which contains some features not before mentioned. Without giving you the history of the case in full, I would say that I was called by a neighboring physician to see a case, a boy 13 years of age, where the particular additional features were flexion of the thigh and knee, adduction and enlargement of the thigh, which gave the appearance, decidedly, of hip-joint disease. This case had quite a long history. There was a small opening over the subcutaneous surface of the tibia, just above the malleolus. On laying this open freely, I found two openings through the tibia about three inches apart, communicating with each other through the canal of the tibia, in the interior of which I discovered a sequestrum about the size of an ordinary thumb. There was another point in regard to this case: there was an opening just below the shoulder from which there was a discharge of a thin, purulent fluid, and from which, the physician said, some pieces of bone had escaped. The two openings in the tibia were thoroughly cleansed, the sequestrum removed, surfaces curetted thoroughly and washed and the wound dressed. The interesting point is that all the symptoms, temperature and swelling at the hip-joint, entirely disappeared after the removal of this sequestrum and cleansing of the wound. The sinus at the shoulder was probed, the probe passing from the mouth of the sinus (just above the insertion of the deltoid muscle) up to the anterior border of the clavicle, but I found no necrosed bone there. The case entirely recovered from the removal of the sequestrum and cleansing of the wound at the lower end of the tibia and the boy is perfectly well. This was supposed to be due to becoming overheated in a hayfield and a subsequent swimming-bath.

Some Studies in Pulmonic Surgery Calculated to Establish the Feasibility of Complete Pneumogectomy in Man.

By T. L. Macdonald, M.D.,
Assisted by J. H. Bronson, M.D.

For six years I have been fostering plans for conducting these studies, but for one reason or another have been delayed till the present season, and even now they are incomplete. We present them, therefore, as suggestive rather than exhaustive, trusting that the work may obtain stimulation, or, perhaps, consummation through the further investigation of some of the members of this bureau.

The idea of removing a lung was suggested to me six years ago by the following case: Man, aged forty-eight. For three years he had been suffering from the discharge of pus through several openings in the chest-wall, accompanied by deterioration in general health. He had been operated three times, upon the assumption that it was an ordinary case of pyothorax. No relief was obtained. I examined him and found the right side of the chest immovable, perfectly flat on percussion, and auscultation failed to reveal the slightest evidence of respiration. The probe passed through the various intercostal openings, and into what was left of the lung structure which seemed to be riddled with pus cavities. The other lung was normal. I saw no relief for this man, except by extirpation of the lung and, although revolutionary and iconoclastic, I so explained and advised. He consented, but, much to my regret, it proved too late, as further investigation showed that he was suffering from amyloid degeneration, due to the long period of suppuration. From this he was doomed, irrespective of his pulmonic lesion and from which, as a matter of course, he died.

Our Experiments.—In man the tidal air is thirty cubic inches, the reserve air is 100 cubic inches. After an ordinary inspiration, an additional forced inspiration results in an intake of ninety to ninety-eight cubic inches. It will, therefore, be seen that the respiratory capacity is so greatly in excess of the amount ordinarily demanded that physiologically at least, man should be able to exist with but

one lung. Clinically, we know that this is true, for instance, in cases of enormous quantities of pus in the pleural cavity, and the consequent collapse of the lung. Physiologically and clinically, the proposition stands without contradiction. We have endeavored to stiffen the proposition from the surgical side by the experiments here detailed. It might be well enough to state that all dogs were chloroformed, that the experiments had the official endorsement of the Washington Homœopathic Medical Society, and consequently were in strict accordance with the humane law of the District of Columbia.

Dog No. 1.—Male. April 5, 12 M. Right pleural cavity inspirated. One-sixteenth grain morphia before inspiration. Chloroform four drams. Respirations not counted. One-sixteenth grain morphia at 11 P.M., eleven hours after inspiration. April 8, 11 A.M., lung removed. Chloroform one ounce and a half. One-sixteenth grain morphia before operation, $^1/_{16}$ grain morphia when operation was completed. Respiration at beginning of operation, thirty per minute. 2 P.M., $^1/_{16}$ grain morphia. Patient noisy. 6 P.M., $^1/_{16}$ grain morphia.

April 9, respiration 36 to 40.

April 11, respiration 45 to 48.

April 18, respiration 40.

Was kept for several weeks, and was as well, hearty and playful as any dog; he, therefore, ceased to be of further interest, and was humanely given a lethal dose of chloroform.

Dog No. 2.—Female. April 26, $^1/_{16}$ grain morphia, 8 A.M., after beginning anesthetic. Chloroform 4 drams. Inspirated right pleural cavity. Respiration subsequently 32. April 28, respiration before operation, 28. One-sixteenth grain morphia at beginning of operation. Chloroform, 3 drams, well taken. Vomited at beginning of operation. Removed lung, but ligature slipped, and resulting hemorrhage produced death on the table.

Dog No. 3.—Male. April 29, ⅛ grain morphia. Chloroform, 3 drams. Vomited once after being anesthetized. Inspirated left pleural cavity. May 2, ⅛ grain morphia at beginning of anesthetic. Chloroform one ounce. Removed left lung. A remarkable degree of compensatory expansion of the right lung, which stretched and pushed the mediastinum before it, almost filling the pleural cavity in which we were working. One-eighth grain morphia after operation. Rallied well. Respiration before operation 40, after operation 44, three hours after operation 40. One-eighth grain morphia 7.30 P.M. May 3, doing well, rather noisy in the night. Respiration 32. May 3, 6 P.M., died suddenly. Wound in good condition.

Dog No. 4.—Female. May 11, inspirated left pleural cavity. One-eighth grain morphia at beginning of anesthetic. Chloroform 2 drams, well taken, no vomiting. Respiration, 23 hours after inspiration, 50. May 11, 11 A.M., removed left lung. One-eighth grain morphia one-half hour before anesthetic. Chloroform 3 drams, well taken. Vomited three times before operation. Respiration after operation, 50. Aspirated left cavity after removal of lung. 4 P.M., $^1/_{10}$ grain morphia. Doing well.

May 15, doing fairly well. Respiration, 40. 7 P.M., dressed wound and found it in perfect condition.

May 17, appetite returned. Doing well.

May 18, respiration 72. Not eating well.

May 19, respiration 60. Improved.

May 26, discharged, recovered. Is now hearty, playful and apparently perfectly well.

Dog No. 5.—Female. May 15, 8.30 A.M. Inspirated right pleural cavity. Chloroform one ounce. One-eighth grain morphia before inspiration. Punctured thorax twice, as first time needle was too near a rib and struck an artery. 7 P.M., doing well. Respiration 64.

May 17, 10 A.M. Removed right lung. One-eighth grain morphia twenty-five minutes before operation. Had to stop during operation and close thorax, as respirations were getting weak. Aspirated lung cavity at end of operation. Chloroform one ounce. 4 P.M., sitting up. Respiration 32. Doing well. One-eighth grain morphia at 8.30 A.M., and at midnight.

May 18, 10 A.M., respiration 32.

May 19, 7 P.M., respiration 32.

May 20, 6 A.M., died. Post-mortem, wound in good condition externally. Lung cavity full of blood serum, which probably compressed the other lung. Lived sixty-five hours after operation.

Dog No. 6.—Female. May 20, inspirated right pleural cavity. Chloroform 2 drams. Morphia ⅛ grain at beginning of anesthetic.

May 22, operated and removed right lung. One-eighth grain morphia one hour before operation. One-sixteenth grain at beginning of operation. One-sixteenth grain at end of operation. Chloroform 4 drams. Hemorrhage during operation, which delayed it, had to close thorax and wait several times. Respiration before operation 36. Aspirated pleural cavity after removal of lung. Died about 9 P.M.

It is unnecessary to tell us that two recoveries in eleven operations is a discouraging result. I believe that this mortality-rate is

needlessly high, and can be accounted for by the following reasons: (1) Inexperience. No surgeon at the present day need blush to admit that he is not an experienced pneumogectomist. (2) I am now satisfied that we did not wait sufficiently long for the subject to become accustomed to existing with but one lung functionating. Instead of extirpating the lung in two or three days after causing its collapse by inspiration, we should have waited two or three weeks; repeating the inspiration in the meantime if necessary. The air is sometimes absorbed in a few days. (3) After operation the patients were removed to the house of a colored servant, whose use of morphia by hypodermic injections might easily have been injudicious, especially at night, when the patient was noisy.

We are, therefore, far from believing that our work has been perfect. "He who deems his work *perfect* is merely confessing that he is so poor a mechanic that he cannot detect his own errors."

In addition to these there were six other dogs, some of which died from chloroform before operation, and others escaped.

Technique.—(1) First a sterilized aspirating needle is passed into the pleural cavity, and sufficient air pumped in to cause collapse of the lung. This is done in order that the subject may become somewhat accustomed to existing with only one lung functionating and in order that the surgical pneumothorax may be less sudden.

(2) After two, three or more days a horseshoe flap, with the free end toward and close to the sternum, is first raised. It is sufficient to cut off three ribs (though more convenient if four are cut) preferably within an inch or so of the sternum—the nearer the sternum the less the intercostal arteries bleed when incised. After three ribs are cut across the intercostal tissues are slit outward for a distance of three or four inches, the ends of the ribs grasped with a strong angular compression forceps, and bent outward, thus freely exposing the lung. At first we cut off the ribs in two places, but this is unnecessary, and at the same time offers twice the opportunity for infection through the bone.

(3) Next the lobes of the now collapsed lung are picked up with T forceps, and a good-sized catgut ligature thrown around the root of the lung, and securely tied; after which the lung is cut through its root, and removed. If shreds or edges of the lobes are still attached to the stump, they are trimmed off. If there occur evidences of respiratory failure, the flap should be drawn over the thoracic opening for one to three or more minutes. This promptly improves the character of the respirations.

(4) The clots are wiped out, and the costocutaneous flap al-

lowed to fall into its former position, and is then rapidly sutured. If the intercostal arteries are bleeding, they are quickly controlled by a suture which is inserted through the next intercostal space, and made to emerge in such a way that when tied it presses the artery against the adjoining rib.

After the flap has been accurately stitched into place, the air will no longer enter and emerge through the wound.

(5) A sterilized aspirating needle is introduced between the sutures, and the air is drawn out of the lungless thoracic cavity. This is done in order to obviate its further pressure against the mediastinum, heart, and remaining lung.

Is This Operation Applicable to Man?—The incredulous should recall the fact that not many years ago we would have been quite as doubtful over the preoperative announcement of possible ovariectomies, hysterectomies, nephrectomies, cholecytomies, and gastrectomies. Yet all these and more have been done.

It will be natural to say that these experiments merely prove that the lung may be removed successfully from a dog. After giving the subject considerable thought and study, I am confident that the successful removal of a *healthy* lung of a dog is more difficult than would be the removal of a *diseased* lung in the human being. As man rises in the scale of intelligence he demands reasons. My reasons for this belief are as follows: First, there is the greater danger to the dog from the anesthetic, because our anesthetics are unused to such administrations, and often fail to detect the approach of danger as quickly as they would in man, to whom they are accustomed. All experimenters complain of this.

Second, in the case of the dog we remove a perfectly healthy lung; in man we would, of course, remove only the lung which was diseased—useless, and a menace to the life of its possessor. In which instance, the system has accustomed itself to existing without the aid of this lung; consequently it is little or no loss.

Third, it is claimed by some experimenters that there is a communication from one pleural cavity of the dog to the other; in which case the admission of atmospheric air and pressure to one lung also admits it to the other. And naturally we would expect double pneumonic collapse to be invariably fatal.

Fourth, it may be possible, but it is certainly clearly improbable, that the same degree of asepsis can be reached in the case of the dog, as in man, and hence infection is an additional factor in the fatalities.

Pulmonic Lesions Which Drive Us to Search for Other Measures Than Have Heretofore Been within Our Reach.—Considering the

frightful mortality rate of tuberculosis alone it behooves us to study every available method of gaining access to the diseased structures. It has long been estimated that one-seventh of all deaths from disease are due to tuberculosis. Desperate conditions may demand desperate procedures. We are well aware that many times both lungs are involved, but surely no clinician would say that among the thousands and thousands that annually die from this affection there may not be some cases which fail to present dual pulmonic involvement, and hence are more or less suitable for partial or complete pneumogectomy.

Gangrene of the lung from embolism of the pulmonary vessels is another desperate and fatal lesion which justifies the consideration of heroic surgical measures. Cases are recorded where the extirpation of costal growths have disclosed the fact that there is an intrusion of the growth, and involvement of the underlying lung. While in such cases the ribs and tumor can be freely resected, the lung is allowed to remain, with full knowledge on the part of the operator that the patient must die. Inasmuch as the issue must be fatal, with the conditions left thus, why not prolong the operation two minutes, throw a ligature around the root of the lung, and extirpate it? I recently reported such a thoracoplasty (with an uninvolved lung, however), where I felt sure that the collapsed and almost motionless lung could have been extirpated without adding to the gravity of the case.

A Few Points of Emphasis.—1. Morphia dulls the system to the demands of oxygen, and should be employed in such work as the above or in ordinary thoracoplasties.

2. The pre-operative inspiration and post-operative aspiration should be given more consideration in chest surgery.

3. The securing of a bleeding intercostal artery by a suture encircling both the adjoining rib and artery should be remembered.

4. The Fell-O'Dwyer apparatus should be within reach, and employed when necessary to overcome intrathoracic pressure and prevent partial collapse of the other lung.

5. While we do not by any means pretend that these studies have placed pneumogectomy in man within the area of accepted surgical usage, we do feel that henceforth when a surgeon does a thoracoplasty for a malignant mural growth, for instance, and finds that it has involved the lung he may hesitate to leave the patient to certain doom (as is now the custom) and at least consider the possibility of extirpation of the malignant and life-destroying lung.

6. The fact that we now have such a sorrowful array of incurable maladies of the lung should stimulate us to further work in this direction.

DISCUSSION.

GEO. F. SHEARS, M.D.: I have never made the operation suggested in the paper, I know nothing whatever of the difficulties to be met, and therefore the little I have to say cannot be of a practical character. I am very grateful to Dr. McDonald for these studies. A few years ago when experimental operations were made on the intestines, it was said that such operations could be of no service, that removal of the intestines or end to end approximations and lateral approximations would simply cause pain and distress, and fail to benefit the human race. The Humane Society took hold of the matter and there was an attempt to suppress all such work. Now we know how much has been accomplished in intestinal surgery and I trust that some time experimental work of the character reported to-night may do as much for thoracic surgery. I feel that this paper of Dr. McDonald is a pioneer, in a way, and that it will lead to good results. I can have but praise for it. On my return home I shall try his plan. I have removed large sections of the ribs in malignant disease and when the disease extended to the lung I have longed to try the removal of the lung tissue, but have not done so. However, the results obtained by Dr. McDonald make me think that in certain cases the removal of the human lung might be justified.

W. E. GREEN, M.D.: The Chairman is mistaken about my willingness to discuss the paper; I do not think I consented to discuss it, but I will say that the society is indebted to Dr. McDonald for his efforts in this line. There are one or two things upon which he dwelt that I would like to comment upon. One is regarding the compensatory action of the other lung. We know that in cases of effusion into the pleural cavity that the other lung does take on compensatory work greatly in excess of its natural function. This has evidently been the case here. The doctor says that he thinks that the expiratory action of the chest-walls caused perforation of the amputated bronchial tube. Of cours he does not know that this was a fact. I do not agree with him. The cicatrization of tissue would close up this opening ultimately, causing its complete occlusion. I am sorry he did not aspirate to see if there was air in the chest-cavity. Had he done so I think that he would have found that the remaining lung had taken on sufficient enlargement to fill up the space. The doctor's efforts are very commendable and I hope that we may hear more from him in the future upon this subject.

Is the Break in the Radius the Only Bone Lesion in Colles' Fracture?

By Gustave R. Van Lennep, M.D.

There is, perhaps, no other single fracture of so much interest or of such frequency as fracture of the radius near the wrist. Next to the ribs, we find the lower end of the radius the most frequently broken bone of the skeleton. In 432 cases of fractures of all kinds treated in the Emergency Ward of the Hahnemann Hospital of Philadelphia during the past year (May 1, 1898, to May 1, 1899), there were 50 cases of Colles', a percentage of a little over 10.

It is, moreover, of particular interest to surgeons and general practitioners alike, affecting as it does the function and symmetry of one of the most useful members possessed by man. What can there be more unisghtly than a bunched-up wrist and a hand displaced to the radial side? Add to this a serious interference with the movements of the hand and fingers, and you have a perfect picture of the unfortunate results too often obtained after a Colles' fracture.

There is no doubt that in certain cases more or less deformity is inevitable, due to comminution of the fragment, loss of structure through impaction, and excessive callus formation with all its attending ills; yet how often one sees cases where there are unmistakable signs of poor reduction, or a failure to recognize an impaction which has gone unremedied until too late.

It is of some interest to know that this fracture was not recognized as such, but invariably mistaken for a backward dislocation of the wrist, which was considered the only lesion, till about one hundred years ago, when Pouteau first pointed out its correct nature and gave a good description of it. This opinion, however, was not shared by his successors, and the injury was still overlooked until 1814, when Colles published his accurate account of the fracture, which led English surgeons to apply his name to it. It only remained for Dupuytren, in 1820, to again bring it before the attention of the profession, and shortly after this the fact was universally accepted.

The advent of the Roentgen rays has given a fresh impetus to

the study of the pathology of this fracture, as of all other bone lesions. It has also been of incalculable service in enabling the surgeon to satisfactorily clear up many a doubtful case, show the amount of displacement present, the existence of associated bone lesions, and finally demonstrate whether reduction has been successfully carried out.

Colles stated in his article that the fracture occurred from one inch to one inch and a half from the articular rim. This has subsequently been proven to be incorrect, the fracture usually occurring much farther down, from one-third to three-quarters of an inch above the articular border, at a point where the bone, although broadened out, is structurally weakened on account of the compact substance being thinned out and replaced to a certain extent by cancellous bone.

Six radiographs of recent fractures showed the following measurements:

In one the fracture was ¾ of an inch from the articular rim.
In two the line was ⅜ of an inch above.
In one, ⅝ of an inch.
In one, ½ of an inch.
In one, 1 inch.

These measurements were taken from about the center of the bone, at a point on the articular rim where it begins to curve down to form the prominent styloid process.

The line of fracture may be transverse, which is usually the case, or at times is oblique, anteroposteriorly, or laterally, the internal border being broken higher up than the external or ulnar side. In the young it sometimes follows the epiphyseal line, although this seems to be unusual. The possibility of such an injury must be borne in mind, and the patient cautioned concerning subsequent arrest of growth of the bone. Stimson ("Fractures and Dislocations," p. 281) cites two such cases occurring at 12 and 15 years of age respectively, and gives radiographs. The subject is exhaustively treated by Poland ("Traumatic Separation of the Epiphyses"). The lower fragment is, moreover, very apt to be comminuted with crushing, or, if this does not take place, there is, in the majority of cases, more or less impaction. The fragment is rarely completely displaced backward, but appears to be tilted backward and outward, and its cancellous structure penetrated to a varying degree by the compact layer of the posterior surface of the radius—the radial styloid process follows the fragment, rising to a higher level, and changes its relation to that of the ulna, which remains stationary, thus giving us one of our most valuable diagnostic signs. The radial side of the bone is shortened,

carrying the carpus upward, and allowing the hand to drop to the inner side, at the same time making the head of the ulna unduly prominent. This subluxation is increased by the giving way of the radio-ulnar ligaments and the spreading apart of the two bones.

Associated with this, the principal fracture, are found a number of lesions, the majority of which have been demonstrated by the aid of the Roentgen rays. There may be fracture of the lower end of the ulna, or fracture of the styloid process of the ulna. The first is rare; the second is probably the most frequent complication with which we have to deal. Stimson ("Fractures and Dislocations," p. 275) seems to doubt the prevalence of this lesion, stating that the Roentgen rays have proven it to be less frequent than formerly supposed. In opposition to this view we have the researches of Kahleyss (*Med. News*, March 5, 1898, p. 306, from *Deut. Zeitschrift für Chirurgie*, vol. xiv, p. 531), who radiographed 48 cases of recent fracture with the following interesting results: Fissures of the radius were found twice, both cases produced by a fall on the back of the hand. The whole thickness of the bone was involved in 99 per cent. of the cases. The styloid process of the radius or a part of the articular surface was broken in 11 per cent. Comminution of the fragment was found in one-third of all the cases, and in three-fourths of these the lines of fracture were Y-shaped. Contrary to previous teaching, he found the fracture to be a trifle higher, from one-half to one inch from the articular brim. The displacement was invariably upward, backward and outward. Fracture of the styloid process of the ulna was found in 78 per cent. of all the cases, making this by far the most common complication.

Judging from this report, it would appear that fracture of the ulnar styloid occurs much more frequently than has been previously supposed. Probably the majority of these cases were overlooked until the Roentgen rays revealed their frequency. Without the aid of the rays it seems doubtful to the writer if the fracture can be recognized; certainly not with any degree of certainty, although at times, if the process is entirely detached, and there is not much swelling, it may be possible to grasp the loose piece between the thumb and index finger and obtain abnormal mobility. Even this, however, is extremely difficult to recognize by the most experienced. We must, therefore, call to our assistance the Roentgen rays, and it is not sufficient to make a casual examination with the fluoroscope. It is better in all cases to obtain a radiograph, as it is by the latter method alone that we are able to clearly see and study the lesions present.

Brown (*Annals of Surgery*, Philadelphia, 1898, xxviii, p. 657)

reports the case of a woman who sustained a Colles' fracture in the ordinary way. Radiography showed a chipping-off of the styloid process of the ulna, but only after three skiagraphs had been taken, each at intervals of about two weeks. This apparent failure of the X-rays to disclose lesions in bone has been noted in a number of instances. In one case, where there were present all the symptoms and signs of a fracture of a metacarpal bone near its base, even to deformity, radiography failed to show the break, although the outlines of the bones were perfect. It was only after several attempts, with the hand in various positions, that the lesion was satisfactorily depicted.

In the radiograph presented to the Institute is seen a comminuted fracture of the lower end of the radius. The fragment is very badly broken up and impacted, the radial side of the bone suffers more than the outer or ulnar side, and there is also a small square piece of bone detached from the inner side of the diaphysis. In addition, there is seen also a fracture of the styloid process of the ulna, with the displacement of the small fragment in such a way as to indicate that it had been wrenched off the bone through the action of the external lateral ligament, which is attached to it. This is probably the usual mechanism of production. When the radius breaks, and the fracturing force continues to act, the hand is forcibly turned inwards and upwards, thus putting the cord-like external ligament on the stretch, and, as is very apt to occur when it comes to a test of strength between ligament and bone, the latter gives way.

The fracture occurred in a large, muscular man—the result of taking a "header" from his wheel while coasting down a hill. There were the usual symptoms of a Colles', masked, to a certain extent, by swelling—the case not being seen till twenty-four hours after the accident. The break in the radius was readily recognized, but the fracture of the ulnar styloid was not found, or even suspected, till after the skiagraph had revealed it. The result in this case, considering the amount of comminution and crushing, was good; function is almost perfect, though at times the wrist feels weak and gives way. There is considerable bunching of the lower end of the radius, with displacement of the hand to the radial side, prominence of the head of the ulna, and perhaps a little thickening of the latter.

Eddington (*Glasgow Med. Journal,* 1898, i., p. 118) reports a case of comminuted fracture of the base of the radius, with separation of the styloid process of the ulna.

It would appear, judging from the lesions in these two cases, that fracture of the styloid process of the ulna should be looked for when the violence has been excessive, producing comminution,

and has been received in such a way as to force the carpus inward to an undue degree, thus putting the external lateral ligament on the stretch, or impacting the triangular cartilage against the ulna. It would also be reasonable to suppose that, in the presence or absence of fracture of the ulnar styloid, there must be more or less damage done to the external lateral ligament or displacement of the triangular cartilage.

There occurs invariably, in addition, rupture of the radio-ulnar ligament, the evil effects of which show themselves late. One case treated in the Hahnemann Hospital Dispensary, with apparent excellent result, came back, some weeks after the splints had been removed, with an ugly prominence of the end of the ulna and a widening of the wrist, which, the patient stated, had gradually come on with the return of function. This is a good point to bear in mind in the management of this fracture. It is our custom to always prescribe a wristlet of some sort, or at times a leather strap to be worn above the joint after the splints have been cast aside, in order to allow the slow process of fibrous-tissue repair time enough to be properly carried out.

As to the cause of Colles' fracture, the history usually shows it to be a fall on the outstretched hand. In the elderly it is usually a fall to the ground while walking; in younger persons, a fall from a height. The blow is invariably received on the palm about the region of the thenar or hypothenar eminence while the hand is extended. Rarely the opposite is the case, *i. e.*, a fall, striking on the back of the flexed hand. This form of violence is apt to produce fracture, with forward displacement of the fragment; rare, but possible.

Roberts (*Fractures of the Radius*) has collected a number of instances of recorded cases where the displacement of the fragment was forward—invariably the result of a fall on the back of the hand—and likewise shows by an experiment on the cadaver (page 45) that forcible flexion of the hand, after forcible extension which has broken the bone, can produce a forward displacement of the lower fragment. This is of considerable interest and well to bear in mind, although it hardly seems possible that it has ever occurred in the living. As Roberts says in another place (page 1), the displacement is the direct "result of the vulnerating force," and is not influenced in any way by muscular action.

Destot and Gallois (*Rev. de Chir.*, 1898, No. 10), in a series of experiments, place the hand on the ground in various relations to

the forearm, and apply a blow on the olecranon. The following deductions were arrived at:

1. The ligament that plays the most important part in the production of the fracture is the radio-ulnar. The interosseous or lateral ligaments are entirely passive when the hand is fully extended and with no lateral deviation.

2. The fracture is produced by the impaction of the radius against the carpal bones, and the transmission of force to it through the radio-ulnar ligaments.

3. When the hand is abducted the fragment is carried backward and outward (this is the usual displacement), and there may be a fracture of the scaphoid, with or without the lesion of the radius.

4. In adduction there often occurs a fracture of the inner portion of the radius only.

It will thus be seen that the displacement of the fragment and the variety of fracture produced depend to a great extent on the direction of the vulnerating force, and the latter, in turn, is influenced by the position of the hand at the time of injury.

The other theory advanced by some—that the bone is broken through the traction of the anterior ligament, or what is known as the "cross-strain" mechanism of production—seems to have met with considerable opposition. The force is supposed to be received on the palm below the ball of the thumb, forcing the hand in a position of extreme extension, making the anterior ligament of the wrist tense, and causing a fracture by avulsion.

Stimson ("Fractures and Dislocations," p. 278) shows that the blow is usually received on the ball of the thumb; the anterior ligament, therefore, is not put on the stretch and cannot produce the fracture, and that the hand, in an ordinary fracture, is not bent back even to a right angle. Khaleyss thinks that the fracture is the result of cross-strain and blow combined. The most plausible cause seems to be that of Destot and Gallois—impaction of the radius against the carpus and crushing of the lower end between it and the diaphysis. This theory also explains the comminution so frequently found.

The diagnosis depends on the variety present. In complete fracture with displacement, the lesion can be recognized at a glance; the "silver-fork deformity," the displacement of the hand to the radial side, the widening of the wrist and the prominence of the ulna are signs which can hardly be mistaken for anything else. In those cases, however, where impaction has taken place with no

displacement the problem is harder. Here, perhaps, the most valuable sign is the change of relation undergone by the styloid processes of the radius and ulna; that of the radius is found to be on the same level as, or even a little higher than, that of the ulna, instead of being about a quarter of an inch lower, which is normal. If the lower end of the radius is palpated, it may be possible to appreciate a certain amount of thickening or bunching. The hand will be displaced to the inside and the head of the ulna prominent. If a well-defined transverse line of tenderness on pressure can be found on the dorsum of the radius, together with the history of the accident and loss of power, then a diagnosis of fracture should be made and the case treated as such.

Unlike other fractures, abnormal mobility and crepitus are very often lacking or difficult to obtain. A diagnosis, however, can be made without the aid of these two signs. In complete fracture with the usual silver-fork deformity, mobility and crepitus are unnecessary, the only other lesion which could resemble it being a backward dislocation of the wrist. This, in the first place, is rare, and a differential diagnosis can be made by locating the styloid processes and comparing their relation to each other and to the carpus.

Distinction between sprain and impacted Colles' is much more difficult, in some cases almost impossible. The swelling of sprain is more compressible and in the region of the joint and carpus, also more noticeable on the back of the hand; the pain, on pressure, is over the joint, while in fracture with little displacement the swelling would be firmer, being due to altered osseous relations. Pain is present on pressure along a ridge on the dorsum of the bone, about half an inch from the radio-carpal joint, deepening of the transverse grooves on the palmar surface of the wrist, and thickening of the lower end of the radius, as compared to its fellow. It sometimes happens that a positive diagnosis cannot be made one way or the other. If radiography, then, is not available, I believe it to be the duty of the attending physician to etherize all such cases and make an attempt at reduction. If there has been a fracture, crepitus will be obtained when the impaction is broken up, and the bone can then be molded in position. If only a sprain is present, no harm has been done, and the attendant has the satisfaction of knowing positively what condition he is treating.

Two interesting cases come to mind. A gentleman fell, getting off a street car, and was referred to us for the treatment of a sprain. The symptoms were obscure, but an impacted fracture was suspected. Examination with the X-rays showed an irregular

blurred line extending across the lower end of the radius. Ether was administered. Manipulation broke up the impaction, the fragment was easily moved, and the bone molded into good position. The result was good.

In another case a patient presented himself at the Hahnemann Hospital Dispensary a week after the receipt of an injury to the right wrist, asking if something could be done for "this sprain." A tendency to thickening of the base of the radius, with tenderness and slight deviation of the hand to the radial side, led us to administer an anesthetic, when, on forcible manipulation, an impacted fracture was broken up and the bone molded into position.

Do not be afraid of using too much force in attempting a reduction of this kind. Roberts (p. 73) recommends bending the forearm at its lower end across the knee. By this method he has succeeded in effecting reduction in two cases of old, unreduced Colles', one of four months' and the other of six months' duration (page 76).

The experience of others has not been so fortunate. The writer records two failures to refracture—one in an old woman, who had a typical "silver-fork" deformity of three months' standing, and the other a Colles' of three weeks' standing, which had gone untreated, in a child of 3 years of age. The latter may have been an epiphyseal separation. There was perfect use of the hand—no pain and no swelling. In the former, on the contrary, pain was constant and excessive, some swelling and heat, and marked interference in the movements of the fingers and wrist. This bears out Roberts' statement that "Fracture at the base of the radius must be reduced if deformity, protracted convalescence, prolonged rigidity of joints and pain are to be avoided." (*Annals of Surg.*, 1899, xxiv, 272-279.)

Failure to properly reduce, in my mind, is due to the fact that the fragments are not separated from each other enough to disentangle them. To accomplish this purpose, I believe that traction and countertraction in the line of the deformity, supplemented by hyperextension of the hand, should be most vigorously carried out; and that, when not otherwise contraindicated, ether should be administered to overcome muscular spasm and allow of more thorough manipulation. For this purpose the stage of primary anesthesia is all that is necessary.

In the after-treatment, the question of a proper splint is an important one. For ordinary use, the Levis perforated tin is the best. It preserves the normal curve found at the lower end of the forearm, keeps the hand turned to the ulnar side, and leaves the fingers

free—three essential points. If not obtainable, a plaster-of-Paris removable splint makes a good substitute (W. B. Van Lennep, "A Few Thoughts Concerning Fractures," *Hahnemannian Monthly,* February, 1897). The bandage should be snug, not tight, and the fingers moved to prevent adhesions of the tendons. Among other dressings may be mentioned that of Carr, Bond's splint, the adhesive dressing of Roberts, and Barnes' modification (*Med. Rec.,* N. Y., 1899, lv., p. 87). If a straight splint is used, it should be put on the dorsum of the wrist and forearm—never on the palmar surface.

In conclusion, the following points are brought out for emphasis:

1. Fracture of the lower end of the radius is often comminuted and impacted, frequently complicated by fracture of the styloid process of the ulna, laceration of the radio-ulnar and lateral ligaments, and subluxation of the head of the ulna.

2. The secret of success in treatment is thorough reduction of the displacement.

3. Every impaction must be broken up forcibly and the fragment thoroughly reduced.

4. Every suspicious case of "sprain of the wrist" should be etherized, and an attempt made to break it up. If successful, there has been an impaction; if unsuccessful, there is a sprain. An intact lower end cannot be broken by manual force.

5. Whatever splint is used, the fingers must be left free and constantly moved. Dressings should not be left on too long.

6. A wristlet should be worn after the removal of the splint, to prevent spreading apart of the radius and ulna.

7. Passive motion, massage and electricity are necessary to restore function.

Discussion.

W. H. Bishop, M.D.: Dr. Van Lennep has been very kind to ask me to discuss this paper of Dr. Gustave A. Van Lennep, and it gives me great pleasure to have listened to a thorough paper of this kind. I believe that in the Institute meetings the subject of Colles' fracture is treated in an off-hand way, some particular splint or method of dressing being advocated, but in Dr. Van Lennep's paper he has gone into the pathology, cause, symptoms and into the various intricacies of the subject, which to my mind, appeals very strongly. As to the thoroughness—take the pathology alone, which I think oftentimes is entirely overlooked, especially by the general practitioner—I would like to emphasize once more that it is very gratifying to have Dr. Van Lennep handle the paper as he has.

All I can say in discussing the doctor's paper is perhaps to emphasize some of his good points, and I think the paper is full of good points. He speaks of the variance of opinion as to the point

at which the fracture takes place, whether it be three-fourths or an inch and a half. It seems to me that the fracture ordinarily occurs at the same level, and in these different reports of fractures either three-fourths, three-eighths, an inch, or an inch and a half—the difference is due to inaccuracy in measurement. Dr. Van Lennep's statistics are taken from the rim of the articular surface, which is considerably higher than the styloid process, where I think most of us are apt to make measurements from, as one of the salient points; and the difference between the end of the styloid and the articular rim may vary from a quarter to a half nich. I think he brought out this point, that when it is measured from the rim of the articular surface it is not more than three-quarters of an inch, not an inch and a half. The question of the cause is simmered down, that is, it is an impaction received from against the carpal bones from the head of the radius and is not due to a sprain. The subluxation of the head of the ulna has always been a rather disputed point, and until we had the advantages of the X-rays we failed to recognize the frequency with which the head of the ulna was fractured, the styloid process—the ulna-styloid. We have always attributed this deformity of the lower end of the ulna to subluxation. Dr. Van Lennep's skiagraph very clearly shows that it is a fracture and not a subluxation, *per se.* Until I had the advantages of this skiagraphic work I always considered it and many times it seems to me I do now with the skiagraph where it fails to show the fracture; but in many cases it appears to me that we must consider a fracture here, as well as the luxation.

In the treatment of Colles' fracture and including under the treatment the prognosis, the bad results to my mind are due many times to a lack of reduction rather than to any form of splint. It is the failure to reduce the Colles' fracture and not to one splint or the other splint that our bad results are attributed. I believe that unless a Colles' fracture is badly comminuted, as in this case—if the fracture is thoroughly reduced—and in my mind the majority of these cases may be reduced when under an anesthetic—good results will follow. The matter of splint, then, is of secondary importance—whether it is the Bond or Levis splint, or plaster of Paris, or any splint you may choose. It appears to me that there is not a great tendency for the deformity to recur. The question of non-success in the reduction of old, unreduced Colles' fracture he also touched upon. Contrary to some of the quotations which Dr. Van Lennep mentioned, his experience has been, I believe, very much the same as my own, that is, failure to reduce old unreduced Colles' fractures; I don't mean of ten days, two weeks or three weeks' standing, but of two or three months. I wish to compliment Dr. G. A. Van Lennep.

M. O. Terry, M.D.: There are several points in Colles' fracture that I would like to speak about.

The first is, how long is it customary to leave on your dressings?

Second. How soon do you begin manipulations—in two, three or four weeks?

Third. What is the best treatment for thecitis which sometimes complicates these injuries?

CHAIRMAN W. B. VAN LENNEP, M.D.: I would like to say to Dr. Terry that the plaster-of-Paris dressing, as mentioned by my cousin, is one that we have been using in the Hahnemann Hospital for three or four years, and is not the splint that encircles the arm in plaster-of-Paris bandage. Measurement is taken from the forearm to the base of the fingers to just below the elbow, and plaster of Paris wet is applied forward and back until we get sufficient to make a splint. That is molded to the palmar surface of the hand, and the same is applied to the dorsum. These two splints are bandaged on after being padded, of course, and can be taken down when you wish. We would be glad to hear from the surgeons particularly as to the questions that Dr. Terry has asked.

W. E. GREEN, M.D.: I wish to speak upon the subject of anesthetizing the patient in the reduction of fractures of this character. I would not think it was always necessary to do so had I not observed some mistakes occurring from this neglect. I have had cases of my own and I have seen cases from the hands of other surgeons, who were thoroughly competent, where deformities resulted and injuries were sustained from the fact of not giving the patient an anesthetic and thoroughly reducing the displaced bone. Not long ago a lady, who was a music teacher—earned her living by being a teacher of the piano—came to me. She had been thrown from a buggy, sustaining a severe Colles' fracture of the wrist, with a dislocation of the ulna. She called in an efficient physician, one who had made considerable reputation in treating fractures. He dressed this fractured wrist without the administration of an anesthetic and put it in a plaster-of-Paris dressing. When he removed the dressing he found he had a great deformity. The head of the radius was entirely out of place, lying beneath the shaft, and the ulna was dislocated, giving not only a deformity but a perfectly useless hand. This woman was not only deprived of making her living but she was inflicted with an injury that was painful and one that would last as long as she lived. But a short time ago an old lady, about fifty-five or sixty years of age, who had sustained a Colles' fracture of the radius, sent for me. Considerable swelling had taken place. I supposed I replaced the bone and put it in a splint and did not open it for at least ten days. When I did I found that the fractured bones were in position, but that the ulna was dislocated. I immediately placed her under an anesthetic and tried to reduce the dislocation, but failed, and now my patient is going around wearing a wristlet. She cannot do her work and cannot use the arm. It is a discomfort to her as well as an unsightly arm, and she will persist in sticking that arm at me every time she sees me. You can well imagine my humiliation. I feel sorry for the woman but I cannot now help her.

In regard to plaster dressing, that which Dr. Van Lennep has described, I have never used it. I have used the roller plaster bandage, but did not like it; the fracture is liable to become misplaced in

this bandage. I like to put my fractures in splints that I can remove, so that I can inspect them occasionally and see that they are in position. After being in the dressing for ten or twelve days the bones are not liable to be separated or displaced; I then like the plaster-of-Paris, and put it on and leave it until the fracture is well.

GEO. F. SHEARS, M.D.: To me the most interesting statement in the essayist's paper is that fracture of the ulna is the most frequent complication of Colles' fracture. He states it because he has had an opportunity by means of the X-rays to prove it. If he had not such means, I should have doubted it. I had supposed that dislocation of the ulna was a more common complication. My complications have been lateral or anterior dislocations of the ulna. I have under observation a case of such a character in which the radius was perfectly placed in position, the bones in perfect position, and the result is perfect as far as the fracture is concerned, but the ulna lies, as is shown by the skiagraph, on the anterior surface of the radius, the result of which is that there was very little flexion of the hand on the arm and there is no rotation. Besides that there is a severe neuralgic pain. It is not, I am glad to say, the result of my treatment. The patient came to me to see if anything could be done. There are many such cases, I believe. It is possible that some cases, which I have believed to be anterior dislocations of the ulna were fractures of the ulna with an anterior displacement of the lower end of the ulna. The point brought out, I believe, is worthy of further consideration, and I shall look with interest if more extended use of the X-ray qualifies the essayist's deductions.

HORACE PACKARD, M.D.: I wish to add my compliment to Dr. Van Lennep for his very timely and able paper. It brings up many points which have been obscure to us heretofore. The X-rays have been a revelation to us regarding Colles' fracture, and I must confess that many of the points were obscure to me before having the X-rays to resort to as a means of diagnosis.

Now, as to the question of fracture of the ulna. That was one of the revelations to me. I found in making, in a routine way, X-ray exposures of Colles' fracture there always appeared some little variation from the ulna, but I never found anything more than the tip of the styloid process. I do not believe that fractures are more than that in ordinary cases of Colles' fracture, but that does not account for the great proportion of misplacements of the ulna in these cases. You are all familiar in these cases with the ulna away back posteriorly from the level of the radius. It is a relative displacement; I think it is not displaced, but the upper fragment of the radius is displaced and carried forward toward the palmar surface, leaving the ulna (?) sticking up there, because I have found nothing in my X-ray work, with the exception of the separation of the tip of the styloid process. It makes me feel very badly to have cases come to me with Colles' fracture with loss of supination, with a silver-fork deformity and perhaps with loss of flexibility of the wrist-joint. I question whether it is ever necessary to have such a result as that.

We must be charitable. There are all sorts and conditions of states of the systems of the various patients who suffer this injury, and I am contented to believe that in some cases, in spite of the very best treatment, there may be this undesirable sequela; it may be from rheumatic involvement, loss of flexibility. Such cases have come to me and I have tried to look at them in this charitable way; at the same time I dislike to see a marked deformity, because it shows that improper, inefficient efforts were made at reduction. They can always be reduced. I want a splint that I can take off easily, two, three or four days, and examine that wrist carefully. Exercise, passive motion, flexion and rotation—I think by that time the fragments are sufficiently hard, so that with care such can be resorted to without displacement. The initial steps of repair in bones are very rapid, so I have discarded all the older forms of splint—the Levis and Pistol splints, the plaster-of-Paris splint—and I use simply two straight boards and they give me the best results. They are always at hand; you can always make them, and that, with a few strips of adhesive plaster and roller bandage, are all you want, with the exception of two little pads, one put posteriorly below the fracture, the other anteriorly above the fracture. This method has given me thus far very satisfactory results.

C. P. Seip, M.D.: Only a few days ago, you will recollect, there was an article that appeared in the medical journals on the treatment of Colles' fracture, in which the author claimed that no Colles' fracture could be properly reduced without putting the patient under an anesthetic. This method has been my practice for a number of years. I became disgusted with the number of deformities encountered in my practise and I determined to see if I could make a better job of such cases. This article recalled to my mind the cases we treated for a number of years in the hospital. For several years we would not reduce the Colles' fracture without an anesthetic and we had very good results. I do not believe—it may be in exceptional cases where you will succeed in reducing Colles' fracture without an anesthetic—but the rule is, you will have to give that patient an anesthetic. There is no fracture that is more painful or difficult to reduce without an anesthetic than a Colles fracture.

As to splints, the gentleman who has just preceded me has my idea, only he puts on two splints where, in the majority of cases, one will do. I use the pads and in the last few years I have not had a silver-fork wrist in Colles' fracture. But the cardinal point and the important feature are first to properly reduce your fracture; get your bones in proper apposition. I keep a splint on for one week and I never apply a roller bandage. I take my splint and tie my wrist up and put on an anterior splint. I can take one off and if I can get a satisfactory view of the fracture I put it on again, and in that way I can see the fracture every day. After one week's treatment I can make passive motion and get rid of all subsequent trouble. About a year ago one of our surgeons was sued for ten thousand dollars damages for deformity of this fracture, and it was shown conclusively in court by her own physicians, who were going to testify in

behalf of the prosecution, that the treatment adopted by the surgeon was the standard treatment, but it was such treatment that no one of you to-day would endorse. If this man could have testified that he brought that patient under an anesthetic and thoroughly reduced that fracture, I doubt very much whether he would have had the least bit of deformity.

T. L. MACDONALD, M.D.: I will comply and commend this paper particularly for the advice to administer an anesthetic before reduction of this deformity. I think that the bad results are, in the main, due to not properly reducing it at the time. There is one lesion, I think, that the doctor has not dwelt on, and which he did in a very good article written by himself some time ago. We have not only fractures here, but injuries to the soft structures and consequent inflammatory thickening of the sheaths and tendons, and the result of this is commonly called rheumatism after fracture. After getting reduction this interferes with perfect function, and although this is regarded as a simple matter, yet we should be very careful in our prognosis to tell the patients that even with the most careful reduction there may be some impairment in the wrist function. It will protect us and will not hurt the patient. I cannot take issue with the essayist but with one of his quotations. He quotes from Dr. Roberts by saying that there is no danger of a recurrence of the deformity. I remember reading Dr. Roberts' article when it was published and read it with interest and probably profit. He dwelt on the fact that it was unnecessary to make any special pressure or dressing after a proper reduction. I acted on that, anesthetized the patient, reduced the fracture and made little or no compression on the upper surface of the fragment, put on a splint below and this quite loosely. In ten days or so I discovered that the displacement had recurred, though there had been no fall. I am confident that secondary dislocation is possible from muscular or tendinous action. It was necessary for me to anesthetize this man again and reduce the Colles' fracture.

F. L. NEWTON, M.D.: I wish to ask if you found the metallic splint interfering with the X-rays? As many of these cases come in to the practitioner put up with a splint, you like to take an X-ray before removing the dressings. I would like to ask for information whether you find that the use of the metallic splint interferes with the X-rays?

G. A. VAN LENNEP, M. D.: The X-rays will not go through the ordinary metallic splint. I suppose you mean the Levis perforated splint. It shows the holes in the tin, but the rest is a black shadow. It is, therefore, best that you take the splint off.

CHAS. E. MYERS, M.D.: Bad results, I think, are probably oftentimes due in addition to imperfect reduction of the fracture to patients or the family tampering with the dressings. I recall a case of quite marked deformity in which I found out positively

that the mother of the child had loosened the bandages, giving as her reason when questioned closely that the boy worried because the dressing was too tight and hurt him. This was done at a time when the dressing should have been kept firm to have prevented any displacement of the fragments, and I am satisfied that quite a number of so-called bad set fractures by the laiety are due to just such meddling with our work. It has been my practise since the above case to make a careful note of my dressing so as to be able to tell when I dress the case again whether the dressing has in any way been interfered with.

GEORGE W. ROBERTS, M.D.: It seems to me quite possible that there may be some misunderstanding of the doctor's meaning if this is to be taken as a type of Colles' fracture. I notice he has written here: "This is a comminuted Colles' fracture, with chipping off of the styloid process of the ulna." Therefore, he does not present it as a *typical* Colles' fracture. I think this is correct and should be much surprised to know that 70 per cent. of deformities resulting from the injury which we classify under the term "Colles' fracture" (of course, there may be variations in this, as in other fractures), are due to fracture of the ulnar styloid. The essential feature of the old typical Colles' fracture was that it did not involve the ulna, except so far as that bone was dislocated. So that this fracture is not to be classified as a Colles' fracture, pure and simple. First, as to the use of anesthetics and the X-ray. It seems to be risky for any man to treat a case of Colles' fracture without the use of an anesthetic in its reduction, and I think it is unsafe for a man, if he is within reach of an X-ray machine, to treat that fracture without it. I use it invariably, and have not found in these X-ray pictures a fracture of the ulna, but have universally found an anterior dislocation of the lower end of the ulna. If you take the X-ray through the wrist from above downward, with the hand midway between supination and pronation, in the normal wrist the palmar surface of the ulna lies on a level with the dorsal surface of the pisaform bone; but in the Colles' fracture, not only in the recent ones but in those cases which come to you where the Colles deformity was incompletely reduced, you will find that the palmar border of the ulna is on a level with the palmar surface of the pisaform bone, showing a large posterior displacement of the ulnar side of the wrist to the extent of something like half an inch—that is, about the thickness of the pisaform bone. I am inclined to believe, despite what the doctor says, that these cases in which he has found a double fracture have been rather exceptional cases, and while I am very much interested in the statement, it seems hardly possible that we can have been overlooking this fracture of the styloid for so many years, and especially when the X-rays have been in use for a number of years. I hope that the doctor's position will be backed up by his future experience, but am rather inclined to think that is an exceptional line of cases.

I want to say one word in behalf of a certain method of splinting, that is, the plaster-of-Paris splint. It seems to take a long time to get an idea out of medical literature when once it has been established.

The idea has existed, until recently, that the plaster-of-Paris splint, which is applied by means of plaster-of-Paris bandage wound around the limb, is dangerous. It is so under certain circumstances, but you must remember that it is the easiest thing in the world to make this a double splint, and instead of using the method described by Dr. Van Lennep, which is evidently a very excellent one, I have applied the bandages circularly—but have immediately split this cast down both sides. If you take the knife and split the plaster-of-Paris down on either side, you have a double mold for the limb, which can be taken apart at will; there is no more danger from compression in that splint than in case of any splint retained by a bandage.

G. A. VAN LENNEP, M.D.: I do not think that there is anything left for me to say, except that this paper has been discussed pretty thoroughly. I should like, however, to call your attention to the fact that I do not claim that fracture of the styloid process of the ulna gives us the deformity which is so frequently found after Colles' fracture—that is, prominence of the head of the ulna; I believe we have a dislocation pure and simple, due to laceration of the supporting ligament—the radio-ulnar ligament. I think the opinion of most of the discussers agreed that the secret of success in the treatment of this fracture is thorough reduction of the displacement, and I do not think that the splint has very much to do with obtaining a good result. Whatever splint is used, if the reduction has been complete under an anesthetic, then I believe the result will be good. I thank the gentlemen for their kind attention.

Treatment of Intussusception.

By G. F. Shears, M.D.

In considering the treatment of intussusception the peculiar conditions present should be remembered. A portion of the bowel, for some cause or another, has been caught by another portion of the bowel below it, and been propelled along by the grip of its circular fibers exactly as if it were a bolus of food. The prolapsing bowel consists of an entering and returning layer, and what is equally important, of its attached mesentery—two conditions to be remembered. Besides the mere invagination of one tube into another, peritoneum is placed in contact with peritoneum under conditions of pressure and irritation sufficient in themselves to produce adhesion, and when to this is added the constriction of the tube by the thickened mesentery, there is present not only the possibility of an incarcerated bowel, but also the possibility of a strangulated one. An intussusception is therefore an aggravated case of internal hernia in which strangulation is made all the more probable from the peculiarly aggravating position of the mesentery. Experience has taught the surgeon that the ordinary external hernia becomes a serious affair if strangulation results, or the gut is injured by too violent taxis, and that the safest of all procedures is to operate at once in all cases of irreducible hernia and that without making too strenuous efforts to prove that the hernia is irreducible. The same principle holds good in internal hernia, intussusception. My rule in external hernia has been to try under anesthesia to reduce the hernia by careful taxis, and if this did not succeed, to operate at once. The same rule would, I believe, hold good in the treatment of intussusception. Try, if the case is a recent one, to reduce the invagination by the pressure of injected fluids just as you try to reduce the external hernia by manipulation; if this fails operate in the case of intussusception as promptly as in the case of strangulated hernia. Too much must not be expected from the injection of fluids. Experience shows that about twenty-five per cent. of cases may be re-

duced by pressure from below—injections; if such means are adopted at an early stage in the disease. When the intussusception is above the ileocecal valve injections are of little value. Leichtenstein's statistics show that thirty per cent. of intussusceptions are enteric, eight per cent. ileocolic. These from anatomical reasons are unsuitable for treatment from below. Of the remaining sixty-two per cent., theoretically suitable, experience shows that while a part are apparently amenable to the injection method, that the cure is only apparent, the bowel uncoiling only to the point of invagination, and immediately reappearing as soon as the force is withdrawn. In a number of these apparent cures, operations must afterward be made. If a diagnosis can be made of enteric or ileocolic intussusception injections need not be tried, but if a diagnosis of ileocecal or colic can be made, or if the diagnosis is doubtful, the percentage of cures by high injection has been sufficient to warrant a trial of this method, with the distinct understanding that if it fails the operation is to be made immediately. Enemata are best administered after an anesthetic has been given, as then no resistance is offered by the patient and the progress of the fluid can be noted. The means employed may be a fountain syringe or the ordinary hand syringe. If the former is employed it should not be raised more than two feet from the bed, and if the latter too great force must not be employed, for rupture of the peritoneal coat of the bowel is easily accomplished. During the progress of the injection the tumor may be manipulated with the hand upon the abdomen, but no force must be employed.

The following five cases of intussusception, which have come under my treatment during the last three years, may illustrate the methods of treatment employed. Other cases diagnosed as intussusception, have been met with, but either no tumor was present or no operation or autopsy permitted a demonstration of the correctness of the diagnosis by ocular inspection, and they have, therefore, not been included in this paper.

Case 1.—Boy, age eight years, had had slight symptoms of indigestion for several days. On way home from school he was seized with severe abdominal pain, accompanied by vomiting and movements of the bowels. An anodyne administered. On second day he was seen by Dr. Bastar, who then discovered a tumor, sausage-shaped, situated on the right side. He still vomited upon taking food and had slimy stools. These conditions continued for four days, when the parents consented to consultation. At this time the distress was lessened, but the abdomen was bloated, and the general

appearance less favorable. No tumor could be felt. Pulse 120, temperature 100°. Enemata had been thoroughly tried without result. I gave a grave prognosis, and advised celiotomy. The abdomen was opened in the median line and the distended intestine (ileum) met and followed in the line of the greatest distention. By this means the intussusception was readily found to consist of ileum into ileum. The sheath and invaginated bowel were very hard, of a dark bluish color, and could not be separated. A lateral anastomosis was made. The operation was made quickly and with great care as to cleanliness, and so far as the technique was concerned was a fine operation. The patient died in six hours.

Case 2.—Boy, aged two years seven months. Presented the ordinary symptoms of intussusception—vomiting, pain, sausage-shaped tumor, bloody scrapings in the stools with tenesmus. Injections had been faithfully tried. The patient came under my care on the third day, and a celiotomy, median incision was made. An enteric intussusception was found with an intussusceptum of about six inches, which could not be reduced. Excision of both the intussusceptum and intussuscipiens was made and an end to end approximation by means of a Murphy button accomplished. Death took place in twenty-four hours.

Case 3.—Baby, aged eleven months. Symptoms began with pain, followed by vomiting and bloody stools. The physician recognized the symptoms, examined the abdomen, found the tumor, and advised consultation. The patient was seen by me eight hours after first symptoms. An anesthetic was given, the hips elevated, and by means of an ordinary fountain syringe, elevated two and one-half feet, twenty ounces of sweet oil were put into the rectum. With the hand on the tumor the mass could be felt to move and gradually disappeared. Shortly after, upon putting the fingers into the rectum, the bowels moved freely. The patient made a good recovery.

Case 4.—Baby, aged eighteen months, presented the usual symptoms—vomiting, pain, tumor, sausage-shaped, in right side, small dysenteric stools, normal temperature. The symptoms first noticed twelve hours before.

The disease was promptly recognized by the physician in charge, and injections of water employed. Under anesthesia oil was injected, but without effect. The abdomen was then opened in the median line and the intestines eviscerated. Intussusception was found to be of the ileum into colon. Pressure was made on the apex of the intussusceptum and the intussuscipiens pulled gently in the opposite direction, the method being similar to that used in the re-

duction of a paraphimosis. Reduction was accomplished without much difficulty, and the intestinal contents were then propelled by stripping with the fingers through the diseased part. A good recovery followed.

Case 5.—Girl, aged five years, was seen eight hours after first appearance of pain. The usual subjective and objective symptoms were noted. No rise of temperature. Injection was made under anesthesia without result. The abdomen was opened in the median line, the intestines turned out and enteric intussusception disclosed. Reduction was accomplished as in Case 4. As there was considerable distention above the disease and as the intestinal contents seemed difficult to move through the injured part, an incision was made into the intestine above the involved gut and a large amount of gas and fluid feces evacuated. The intestine was closed by a Lembert stitch and the abdomen in the usual way without drainage. Recovery followed.

It may be noted in the cases reported that the two cases operated upon with twenty-four hours from the onset of the symptoms were successful, the intusssusception being reduced without enterectomy, and the patients recovering. While this fortunate result cannot be expected in every case operated at an early date, I believe in a large percentage of cases cures will result. While both of the cases in which manual reduction failed, and in which some form of intestinal operation was made, resulted fatally, one need not entirely despair even in these cases. In 1895, Rydgier was able to collect the published record of but twenty-five successful operations made between 1885 and 1895 in which enterectomy was necessary. Powers said in his Hunterian lectures that between the years 1895 and 1897 but two cases of intestinal excision in intussusception had recovered in England. Within the last two years history, however, has been made. I am not in the possession of facts to enable me to give a report of all the cases operated upon successfully during these two years, but the report of Kocher, read at the Edinburgh meeting, of his individual work, is an indication of the work that has been done. He reports six cases operated, five by resection of the whole part, with five recoveries.

In regard to the operation to be made in these cases of intussusception three plans have been suggested: First, intestinal anastomosis and the cutting off of the implicated bowel from the fecal current without interfering with the blood supply. My first case was operated upon this plan. At this time much was expected from intestinal anastomosis. Theoretically it would seem a feasible method,

and while my patient died too soon after the operation to cause me to believe the form of the operation influenced materially the result, I may say subsequent experiment has led to a practical abandonment of this plan. Second, excision of the intussusceptum. This plan, originally suggested by Barker, and advocated by Greig Smith, consists in the insertion of a continuous suture at the neck of the intussusceptum uniting this with the intussuscipiens, the slitting up of the intussuscipiens and the removal of as much of the intussusceptum as lies free, the control of hemorrhage and the subsequent sewing up of the sheath. The plan, which seems a very good one, has been tried a few times with success, but is applicable in but a limited number of cases. The intussusceptum is often so firmly attached to the returning layer that the two cylinders become practically a single tube, and cannot be separated. In such cases this operation cannot be completed, and the time consumed in the preliminary work is practically lost. For this reason it will probably never become generally used. Third, direct excision of the involved bowel. This is the plan I adopted in my second case, and while the patient died the fatality need not be ascribed to the character of the operation, but to the delay in submitting to the operation. Kocher, whose successes I have already mentioned, is a firm advocate of complete excision. He says it is not the operation itself which accounts for the mortality, but the absorption of toxins or bacteria from the fetid intestinal contents which accumulate above the seat of obstruction. To prevent this, not only should the entire involved part be removed, but the bowel should be emptied above the occluded part, and washed out thoroughly. I adopted this procedure in my fifth case and have since used it in obstruction due to other causes with good result.

A perusal of the literature of the last two years shows a decided renewal of interest in the treatment of intussusception by operative measures, and I sincerely believe that the statistics of another two years will not only decidedly reduce the twenty-two per cent. of mortality following operation, in which no resection has been made, and that even in those cases in which resection must be made, more favorable results may be looked for. Under no circumstances, however, should the surgeon expect to obtain, neither should he hold the hope to his patient, that as good results can be obtained as in hysterectomy, ovariotomy or even herniotomy. The conditions are in nowise similar. The peculiar vitality of the parts concerned in intestinal work has no counterpart in other abdominal operations. The conditions met are not simply mechanical ones, for some path-

ological condition precedes intussusception, and added pathological conditions rapidly supervene. Under the most favorable circumstances, then, the mortality must be excessive, and any attempt to belittle the dangers, or to claim that if the operation were made at once the mortality could be reduced to the very small percentage belonging to herniotomy, in the nature of things is simply to discourage the ambitious operator. While, then, too optimistic views must not be entertained of the results of operative measures, I cannot but believe from my own limited experience that early operations offer the best chance of curative results.

Discussion.

T. L. Macdonald, M.D.: I don't think there will be a very fierce discussion over this paper, because really thorough discussion demands opposition; and I do not think we will have very much, because the paper is reasonable, radical and surgical from beginning to end. I cannot add much to it in a clinical way. I have had two cases; both were reducible after abdominal section. I have, however, a theory which I will offer with reference to the cause of intussusception, which is this: Probably some of us are aware of an article written in one of the journals not long ago, entitled "Dynamic Ileus"—I do not know why it was called that—which referred to the contraction of the circular fibers of the intestine. A case of appendectomy which I saw about six weeks ago, which at least one gentleman present here saw with me, presented just such conditions, and in three different places I pointed out to my assistant where the circular fibers had contracted to the size of a pencil, diminishing the size of the gut to that dimension. Upon manipulation these strictures disappeared. It is very easy for peristalsis above this to drive it onward into the gut below, and it seems to me that such cases can encourage intussusception.

I am not altogether in accord with the view which Dr. Shears has presented to us, though not original with himself, but as coming from Koch, who attributes the bad results not to the operation, but from infection, by absorption of the fetid matters above the constriction. It is somewhat presumptuous for me to differ from this, but a very learned and scholarly gentleman from Chicago once said that the tendency of the human mind to place more credit on the wisdom and skill of those in foreign countries than at home is as old as the human race. For one, I do not hesitate to say that I believe the bad results are not due to the operation, but to infection through the structures; the shutting out of the normal blood-supply means the letting in of the colon bacillus every time, and it is not necessary to have a great amount of poisonous matter above the constriction. All that is needed is an injury to the peritoneal structures, which means letting in of the colon bacillus and its ptomains and toxins and death results. No one can take exception to what

Dr. Shears has said about early operation. They are the same rules as apply to hernia or other operations.

CHAIRMAN W. B. VAN LENNEP, M.D.: Dr. Green has a fit of modesty, although I have him down to discuss this paper.

I have not had an extensive experience with cases of intussusception, nevertheless I have had the average run of, say, 10, 15 or 20 cases, but intussusception, to my mind, has a very practical lesson to the general practitioner. These cases, of course, come under his care first, and I do not know of any more pointed remarks than those which Dr. Shears made in regard to the three cases where the general practitioner recognized the condition at once and called in a surgeon, the appropriate remedy being applied with successful result. Now, in a case of strangulated hernia, there is occasionally an instance where a patient refuses an operation and Nature steps in—the intestines slough, a stercoral abscess forms, the abscess is poulticed by some neighboring lady friend, the abscess breaks and the man recovers with a fecal fistula; a certain number of cases do recover. In intussusception there is the same sloughing; in a certain proportion of cases the necrotic intestine is successfully passed away by the bowel. As a matter of fact, the statistics go to prove—and this is a very good rule to follow—that when a case of intussusception has lasted for 48 hours, the surgeon is a worse doctor than Nature. As a matter of fact, if an intussusception is allowed to go for forty-eight hours, Nature will cure forty per cent. of the cases. Surgery, on the other hand, up to perhaps very recent statistics—Dr. Shears has given from Kocher—has had a varying mortality from 50 to 90 per cent. in these cases, so that this shows the importance for early recognition of these cases. I have had some success in these cases when I could see them early, but I have been so disappointed with the inevitable mortality when the cases have been seen on the sixth or eighth day, that I do not like to open the abdomen under these circumstances. The only thing I would feel justified in doing where adhesions had taken place would be a quickly-planned artificial anus, as Dr. Shears has mentioned.

The discussion is now open, and I thank you for allowing me to say a few words.

W. E. GREEN, M.D.: I desire to make an exception to Dr. Van Lennep's statement. He probably did not call to mind chronic intussusception. These cases may run for months before complete occlusion of the bowel occurs. In these patients operative interference usually proves successful, especially if performed between attacks. If, however, they are allowed to run until complete obstruction supervenes, then they partake of the nature of an acute attack and the operation usually proves fatal, the same as though it were an acute case; but if you operate on these chronic cases between times or in the absence of an acute attack or complete obstruction, then you will have a life-saving operation in almost every case.

HORACE PACKARD, M.D.: As far as my experience is concerned,

intussusception is a rare intestinal complication in the East. I have personally known and had relations with, I think, but four cases, and in three of these, curiously enough, as mentioned by Dr. Van Lennep, Nature had had a chance and she had cured all; the fourth case lived on until it became a chronic condition; there was still an aperture sufficient for the passage of fecal matter. The constriction of the mesenteric supply was not so great as to result in sloughing. A tumor was apparent, the character of which was unknown until I made an abdominal section. In that case I restored the continuity of the intestinal canal successfully by lateral anastomosis. I think there is great hazard in approaching these cases with the knife. In one of my cases there was sloughing away and in another discharging of 18 inches of intestines, in another 12 inches, and in another 4 inches. These cases get desperately sick; we think they are going to die, but many of them—I think a large proportion—pull through; it all depends, of course, upon the adhesions which form around the "neck," as we call it, of the intussusception. We know how rapidly peritoneal surfaces, if held in contact and at rest, become adherent; when that is done, Nature has protected the patient; the immediate menace has passed; there remains only a completion of the process, and if Nature is kind enough she will do that in the sloughing away of the intussuscipiens, which will pass *via naturalis,* and the patient will recover.

M. O. TERRY, M.D.: Did the cases live?

T. L. MACDONALD, M.D.: Yes.

M. O. TERRY, M.D.: That is interesting. The question of shock comes in here, and I want to hear more about the ages of the patients. The element of shock is of very great importance in these cases, and I would like to hear what Dr. Van Lennep has to say, drawing the line between the adult and the youth, with reference to the outlook in these operative procedures.

W. B. VAN LENNEP, M.D.: I can only speak from recollection. I have never seen cases of intussusception in children over 12 and 14 years of age. As regards the question of shock, there was one case of intussusception which, after being reduced, kindly died of shock. This was one of the oldest patients I have seen. I have been surprised in these abdominal operations. I think the general theory is that very young children do not stand severe operations well at times. I was called to the Hahnemann Maternity not long ago to trephine for a very extensive depressed fracture in a child ten or twelve hours old, and the reports are multiplying every day of cases of more or less extensive umbilical hernia, or some other severe surgical procedures, very well borne in children only a few hours old. So far as age is concerned, I have no statistics, except that of one of my oldest patients dying of shock during an early operation.

GEO. F. SHEARS, M.D.: I want to say a word before this is

closed, because I do not want you to think I am a very radical fellow, for I am not, but I had an early experience in hernia and a very interesting one. I think I have had the average results in other troubles, but a number of years ago when I commenced to operate I had some cases of hernia, and the first case of strangulated hernia I had died very promptly and I felt very badly; the next case I had died, and I felt very badly, and the next case I had died and I felt worse than before, if that was possible. I made up my mind that I would not be a surgeon, that I would not do surgical work. In all these cases I had been called in long after the initial symptoms. The physicians had been tinkering along for four or five days, doing all sorts of things, and in every case the abdomen was bloated. When I commenced teaching in a medical college I began my narration of these cases, compared them with the results of early operation, and insisted upon giving the surgeon a chance at an early date, and in our section of the country they are rather educated up to that belief. It is very rarely that I am called upon now to operate on a case of incarcerated or strangulated hernia that is more than twenty-four hours old, and now the patients all get well. I do not think it is because of an improvement in my style of operation so much as it is in the time of operation.

To a certain extent the same reasoning is applicable to these cases of intussusception. It has not been my observation or reading that so large a number of cases get well as stated by our distinguished associates. I am in doubt; I question their statistics. Neither do I think the cases that get well by the process of Nature are in so desirable or happy a condition as would seem to be indicated by the reports made. I have had patients who got well by this process of nature and in nearly every case a stricture followed or there were subsequent attacks, or else the patients died later from some abdominal complication. I am very much inclined to believe that in the future the surgeon who advocates leaving these cases alone for the process of nature will be placed in the same class as the surgeon who leaves cases of strangulated hernia to the natural process. I am very much inclined to think that if the operation can be made at an early date within the first twenty-four hours, a larger number of cases will get well. I do not believe that age is any great barrier to the performance of abdominal operations. I have been surprised to note in cases occurring in little children how well the patient stands the operation, and have been surprised at the excellent results obtained.

Operative Treatment of Varicose Veins.

By W. E. Green, M.D.

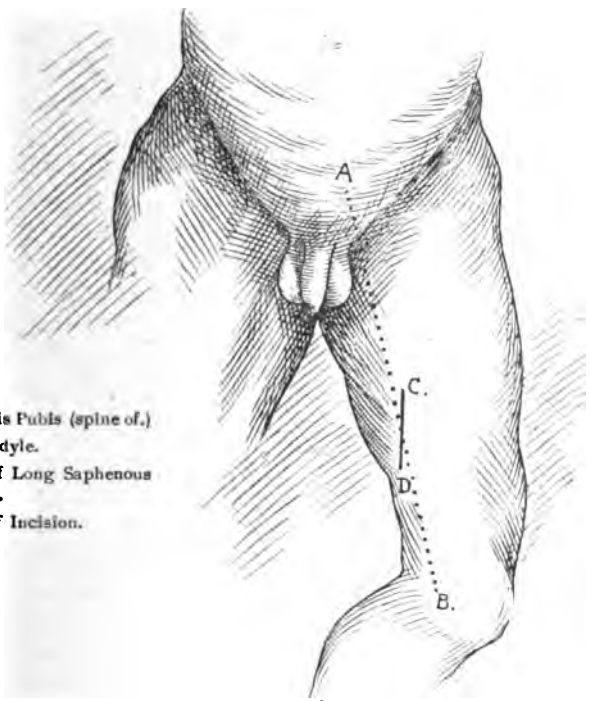
During my professional life it has fallen to my lot to have had many cases of varicose veins and ulcers under my care. These were generally managed by the usual therapeutic measures and mechanical appliances with variable success, a cure, or even a satisfactory termination so seldom resulting that I ultimately became adverse to treating such patients. The operations recommended in the text-books, such as the application of caustics, injections of astringents, igni-puncture, ligaturing, dissecting out the diseased veins, etc., did not appeal to my reason, and were seldom adopted as a curative measure. Not until I had read Trendelenburg's theory of the cause of the disease and his operative procedure for their relief did I resort to surgical measures for the cure of varicose veins and the many conditions arising therefrom.

The veins of the lower extremities are supplied with valves and richly endowed with unstriped muscle—muscle of organic life, this endowment of nature undoubtedly being for the purpose of supporting the column of blood passing upwards through this long chain of vessels. The office of the valves is largely to break the column into segments, so that the weight of the blood will be more evenly distributed. The long saphenous vein has from two to six valves, being more numerous in the thigh than in the leg. When these valves or dam-like obstructions to the backward pressure of the blood become impaired, or destroyed from any cause, the weight of the entire blood-column must be sustained by the walls of the veins, and their consequent dilatation and stagnation of the circulation ensues.

The causes that contribute to the pathological changes that superinduce varicose veins are numerous; the principal of which are hereditary predisposition, occupations that require the subject to sustain his body in the erect position for many hours each day, pregnancy, pelvic tumors, hernia, the wearing of a truss, elastic

garters and stricture of the opening in the fascia lata. Cicatrices and violent exertion may be enumerated among the factors serving to cause venous ectases.

The changes in the walls of the veins are progressive and varied, according to the time the disease has been running and the degree of dilatation. In the earlier stages the middle tunic becomes hypertrophied, and later atrophic degeneration may ensue. These morbid processes do not progress alike in all parts of the vessel, therefore the walls may be hypertrophied in some parts of its course and attenu-



A, Symphysis Pubis (spine of.)
B, Inner Condyle.
A B, Line of Long Saphenous Vein.
C D, Line of Incision.

ated in others, so that in places the vein may be thickened and indurated, while in others it may be thinned and saculated. The dilatation of the veins causes a stasis of the circulation and a consequent pathological process in the surrounding structures. The cellular tissue becomes infiltrated and swollen and the capillary circulation impaired, a general tendency to devitalization of structures with all its morbid possibilities resulting.

The theory of Trendelenburg was founded in accordance with his observation that varices of the leg are usually associated with

ectasis of the saphenous vein, and that impairment of the valvular function results therefrom. The inferior vena cava and iliac veins are wanting in valves, therefore the current of blood which reaches from the right auricle to the saphenous vein is not interrupted by valvular interference, and consequently the walls of the saphenous vein and its tributaries sustain the full weight of this column.

The operation which he devised, and has so successfully performed for the cure of varicose veins of the lower limbs, consists in cutting down upon the saphenous vein, ligaturing it at both the upper and lower angle of the wound and excising the intervening portion. As it is very important that suppuration should be avoided, the most exacting antiseptic measures should be observed throughout. In thin patients the blue line of the vein as it courses up the inner side of the thigh can be easily seen; but in fleshy subjects the operator must depend upon a correct anatomical knowledge of its location, even then much difficulty may be encountered in finding it, especially if the surgeon inadvertently cuts some of the anastomosing branches, which allows the vessel to collapse. Accuracy of its location may be established by marking a line, with an analine pencil drawn from the under surface of the internal condyle of the femur to the spine of the pubis. This line will lie over the vein and run parallel with it in the middle third of the thigh. The incision may be made to cross this at a slight angle, as indicated in the illustration. In order to facilitate matters the limb should lie upon its outer side, abducted, and the leg somewhat flexed upon the thigh. Beginning at the junction of the lower third with the middle of the thigh an incision is carried upward three inches and the vein carefully dissected up with the back of the scalpel. All branches leading off from the main vessel are now ligatured, after which it is secured with No. 2, chromicised cat-gut at both the upper and lower angles of the wound, and the portion of the vein situated between them is excised. If difficulty is encountered in finding the vein one of the tributary branches may be picked up and its course followed until the main vessel is found. After the excision has been made the wound should be closed by two rows of sutures, one deep-buried, the other superficial, after which a bountiful dressing of antiseptic gauze is applied. This is kept in place by a roller bandage that extends from the toes up to the top of the thigh. After the operation the patient should be kept in bed for from two to three weeks, and should be instructed to wear a flannel or elastic bandage for several months.

In cases in which the confluent veins have become sacculated, this is especially liable to occur on the posterior aspect of the leg and

popliteal space. It may be beneficial to dissect them out in order to give relief from the tenderness and soreness that attends their presence. It is better that this be done at a later date, after the full benefit from the first operation has been obtained. The improvement that follows this operation is always astonishing. The enlarged veins, edema and induration promptly diminish, the ulcerations assume a more favorable condition, healthy granulations spring up and cicatrization rapidly follows.

Of the several cases operated upon all have proven eminently satisfactory. A recital of two of the most unique will probably not be out of place.

Case 1.—Miss H.: House-girl and cook; aet. 60; a large fleshy woman; had been under my professional care at times for the past ten years for ectasis of the veins, edema and ulceration of the legs. Both legs, from the knee down, were enormously swollen, indurated and ulcerated, so that it was with great difficulty and suffering that she could get about at all. I had twice put her in the hospital and confined her to the bed for weeks, until the ulcers were healed. The veins of the back of the calves and popliteal spaces were sacculated and softened in spots. I had repeatedly offered her surgical relief, but it was continuously declined until she reached the stage where it was that or permanency in bed, so she at last consented. She was placed in bed for a week before the operation and the legs were bandaged and elevated, so as to, as far as possible, get rid of the vast edematous condition that existed. The case was of such grave character that I was a little dubious myself as to the beneficial results that might follow any surgical procedure. Therefore, I decided to operate upon but one leg at a time. The right leg, the worst of the two, was chosen. It measured between seventeen and eighteen inches at the ankle, and had upon it on the outer side just above the heel a superficial ulcer the size of a silver dollar. The operation was executed without difficulty, and immediate union of the wound followed. The recovery was nothing short of marvelous. In less than two weeks the swelling was gone, the ulcer entirely healed, and the leg, excepting some softened sacculated spots, presented all the appearance of a normal, highly muscularly developed leg.

The other leg was accordingly operated upon with the same good results. I examined this patient one year after the operation, and found the condition to be still satisfactory.

Case 2.—Mrs. A.: Aet. 51; tall, slender and delicate; had been affected for two years with varices, edema, and at times, ulceration

of the leg. The suffering was far in excess of what the condition would seem to indicate, as the veins were not greatly enlarged, nor was the swelling extensive. Her suffering, however, was extreme, and she was frequently confined to her bed for days with the pain. It was not uncommon to see her sitting up in bed, with the tears trickling down her cheek, frantically rubbing the limb. She readily consented to an operation at my suggestion, and voluntarily went to the hospital. Although she was of spare habit the saphenous vein was found with much difficulty. It was small and its walls were greatly thickened. She suffered considerably from the operation and for several weeks the cicatrix was the seat of severe shooting pains and soreness, but the results otherwise were most satisfactory, and in time these pains subsided.

I have never had any serious result of any kind follow the operation. In my second case, where the walls of the vein were very much thickened, and the ligaturing was done with ordinary No. 2 gut, absorption of the ligature occurred before the vessel had become occluded, and a constant though slight bleeding followed for several days through a small fistulous opening. It was controlled, however, by compress and bandage. Since then I have always used the chromicised gut.

DISCUSSION.

T. L. MACDONALD, M.D.: The fact that I have had the honor and pleasure of discussing so many good papers is not due to any ability in this direction, but to geographical causes. I see the doctors coming from the South and West as they stop over in my city, and they ask me to discuss their papers.

This, after all, is a pretty important subject, because the old varicose veins, like the poor, are always with us! We have all had more or less experience with them. I have never had any experience with this operation and I am very glad that Dr. Green has called attention to it. It my treatment of this class of cases I have depended on dissection or excision or multiple ligation of varicose veins. I have taken them out from the ankle to the middle of the thigh, which makes quite an extensive operation, particularly if you have both legs to operate on. It takes considerable time and usually requires someone to assist who can operate on the other leg simultaneously—at least it is wiser to do it. Sometimes the results are good and sometimes they are not, because other veins become sacculated and prominent and give rise to more or less perpetual trouble. On the whole, I have had just as good results by simply introducing a silkworm suture beneath the veins and tying over a little gauze pad. As many as fifty or sixty are sometimes employed.

DEWITT G. WILCOX, M.D.: I wish to report the case of a young man, 24 years of age, with distention of veins, enormously varicosed

from ankle to hip. I operated on him two years ago, ligating the veins at four separate points—two below the knee and two well up in the thigh; I did not remove the blood-vessel, but cut down to the veins and ligated and sewed up. He has remained in perfect health since the operation, two years ago, and there has been no increase in the distention of the veins.

W. B. VAN LENNEP, M.D.: I should like to add one personal experience. I have operated, of course, a good many of these cases—excised, ligated and resected according to the method of Trendelenburg—and my experience has been universally that of Dr. Green's, that the wounds have united by first intention, that the ulcers have healed, and that the patients have been delighted with the results. There is one incident that I met with which it would be well to bear in mind when we are inclined to look upon the operation as a harmless one. Some years ago I had occasion to do this operation and made quite an extensive removal of the saphenous veins, as well as some of the leg, for varicose ulcer. A week or ten days after the operation, when the wound had healed and the dressings were ready to come off, one night the patient fell out of bed during her sleep and in a few seconds was dead, death resulting from a detached clot. It is well to remember this on all operations on the veins, and that it is during or after operations that this is a possibility.

W. E. GREEN, M.D.: After a non-absorbable ligature has been placed upon a vein there could be no objection to excising it, but I decidedly object to burying non-absorbable ligatures which remain in the tissue as foreign substance. I use chromacized catgut, which constricts the vein sufficiently long to insure its occlusion before absorption takes place.

In closing I wish simply to emphasize Trendelenburg's theory as to the cause of varicose veins in the lower limb. It is the pressure of the column of blood reaching from the heart to the veins of the lower limb without sufficient valvular interruption. The effect of the valve is to break this column of blood and relieve the pressure, taking the strain from the walls of the vessels in the lower limb. When you interrupt this current of blood you remove the cause and you get a permanent and satisfactory cure from your operation. It was not my effort in this paper to direct attention to the operation so much as it was to the cause of this disease. When you understand that the weight of this uninterrupted column of blood produces dilatation the operation is self-suggestive and readily understood.

The Law in Surgery.

By L. H. Willard, M.D.

Members of the Institute: It is on account of the gross injustice which has been done to surgeons that I feel called upon to write a paper upon this subject—Law in Surgery.

We all know that if we value our peace of mind—or safety of pocket—we are obliged to protect ourselves by various, and sometimes unpleasant, ways and means.

It has been the case that surgeons, from humane motives, have gone to the afflicted, whenever they are called, to alleviate their suffering. Cases of accident, the surgeon is always called upon in the most alarming manner, and, heedless of other things, he generally responds. Not to weary you with a recital of things already familiar and with an apology for introducing a subject entirely new to this section, I will merely say that so far as we know the prognosis in this disease is of the most unfavorable kind. A few cases coming under my observation will illustrate the character and injustice of such actions brought against surgeons. The question was asked one of our eminent jurists, suppose a surgeon was called to a case of accident; he responded to the call and found another surgeon in attendance; he assisted by only expressing an opinion in regard to the fracture (supposing there was one); in fact, all that he did was merely to approve of the splints and their application, this was all. He never saw the case again, was never asked an opinion concerning him. The case went on to recovery, but owing to some fancied or real neglect the result was not satisfactory; action was begun by the patient against the surgeon in attendance and also against the surgeon who assisted by his counsel at the time of the accident. Now, we would like to know if such an action could be sustained against the surgeon who assisted?

Much to my surprise he answered *yes.* His explanation was that in this class of cases it was the same as in criminal actions, the assisting surgeon was an accessory to the act and hence liable, and if a verdict was rendered for the plaintiff both would be liable, and

if the attending surgeon was not worth anything the whole amount would have to be paid by the assisting surgeon, costs and all. I am speaking now of Pennsylvania. In such a condition of law it is necessary for a doctor to be careful in such cases, either to look and say nothing, or to go away without even looking, for a mere expression of opinion would sometimes be very costly, not only costly but worrying and humiliating to think that in return for an act of mercy you may only receive base ingratitude, even in cases where no compensation has been given or expected.

You are all aware of these cases that have sullied our courts and made us feel the injustice of jury trials, and some of us vowing when called in a case of a poor wretch, who is injured, that he may get some one else to attend him, nor can a surgeon be blamed, for he by doing so often perils fortune and reputation.

A few years ago in Luzerne County, Pennsylvania, a physician was attending a friend's practise who was away. During this attendance on his friend's practise he was called on to set a fractured arm; he applied the ordinary splints and before the seventh day the other physician returned and he resumed his own field of labor in a distant part of the State. During the next year he was made the defendant in a suit by this patient for improper adjustment of the fracture, much to his surprise. He made what defense he could of being only called on at first, had never seen the man again, was not aware that he was even liable for an action of this kind, as there were other surgeons in the locality, and in fact the man had never called and told him or his friend of the result. The learned judge ruled this was no defense, and the jury, with their usual generosity, very promptly gave a verdict of $2,000 for the plaintiff. The physician settled the case, not caring to be bothered with any more litigation. Whether he settled for the full amount I do not know.

A man fell from a derrick, received a fracture of both bones of the leg, compound fracture of the femur of the same leg, was treated by a very careful and skilful surgeon. Treatment was with extension and counter extension liston long splint. He attended him constantly and during this treatment called in a friend, a surgeon, who happened to be passing; the friend gave it as his opinion the treatment was right. This was a hospital case, occupying a private room. The man was a most filthy creature, would in a fit of what he said was delirium uncover himself in the presence of his nurse (female) and in other ways was a most repulsive beast. He finally left the hospital, after being there two months, called in another surgeon, under whose care he finally recovered with a shortening of

2½ inches. When you consider these fractures, one of them compound and the other oblique, of the bones of the leg, this result was very good. The patient commenced action against the surgeon who first attended him, the surgeon who gave counsel and the interne of the hospital, claiming improper treatment, want of care and bad result. To be brief, the jury awarded him $6,000 damages. A new trial was granted by the learned judge. In the meantime the members of his church, taking pity on him, made him their janitor, but temptation to steal was too strong, for in a few weeks he was detected stealing money from the collection plate; he was not prosecuted but allowed to go. The case never came up for trial again, although this theft of his would not bar his action against the surgeon. In this case the doctor for the plaintiff, who was seen after the trial, said there would have been no trouble to have obtained a non-suit if the defendants had seen him before the trial and explained the treatment the patient received. But that he only had the patient's account of treatment, which obliged him to say when on the stand that although he never had a similar case he thought the result was not as good as could be expected. Hence the case went to trial and resulted in a $6,000 verdict for the plaintiff.

Another case, equally unjust, is recorded; tried three times, extending from 1890 to 1896. At the last trial a verdict of $12,000 was rendered for the plaintiff. A new trial was granted by the judge on condition the plaintiff would accept $4,000, which he did, when the defendant appealed to the Supreme Court, who ignored the suit and reversed the judgment, thus ending the litigation, the cost of these cases falling on the county. I might give numerous other cases, but it is not my intention to weary you.

In regard to the remedy. I wish I could give a sure cure, but I cannot so long as we have doctors in this land who bear a close relationship to Annanias. It is they, who, from love of gain, envy or jealousy, make it impossible by their evidence to gain a non-suit for the defendant. They may seem to be influenced by the greatest sympathy, but at the same time their evidence being not positive in regard to the treatment, make it a case for the jury. We may talk of juries being incompetent in these cases, and it is a fact that they are, but we cannot blame them when by the doctors' testimony for the prosecution it is left for them to decide whether the plaintiff has been properly treated or not, and when it is a question between a professional man and a workman the jury most always decides against the professional. In one of these cases just told of, in which the jury disagreed, the man who held this jury said that on going

into the room to decide on a verdict there was no question as to the treatment, but only how much money should be given to the plaintiff, and that was all of the discussion. So you can see by this that in regard to the treatment that never enters into their consideration.

Is it right for a surgeon to thus place in jeopardy his fortune, what little he may possess, or his reputation? Is it not better, under the existing circumstances, to place everything out of his name so that there will be no temptation for these miserable people who, not thinking of anything but personal gain, bring actions against doctors (resembling blackmail)?

The Chief Justice of Pennsylvania in a recent decision says if these surgeons who give their services to the suffering race are to be harassed with actions for damages when they do not happen to cure a patient, and are to incur the hazard of having their estates swept away from them by the verdicts of irresponsible juries, who, caring nothing for law, nothing for evidence, nothing for justice, nothing for the plain teachings of common sense, choose to gratify their prejudices or their passions by plundering their fellow citizens in the forms of the law, it may well be doubted whether our hospitals and other charitable institutions will be able to obtain the gratuitous and valuable services of these unselfish and charitable men.

In other cases it might be well for us to consider the article of Mr. Taylor in the *New York Medical Journal,* who says in reference to cases of this kind it might be well to first anticipate the action of the plaintiff by first suing him before the local alderman for his fees. I quote from his article:

"*Effect of Judgment for Recovery of Fee.*—A judgment being entered in favor of the physician in a suit commenced by him to recover the value of his professional services, it is interesting and valuable as well to inquire what effect such a judgment will have upon a possible right of action against him, and in favor of the patient growing out of unskilfulness in the performance of the same services for which he has just recovered. It is a general principle of law that a judgment of a court of concurrent jurisdiction directly upon a point is a bar to an action upon the same point and between the same parties in another suit.

"The Appellate Court of New York has applied this doctrine to its full extent. In this instance suit had been commenced by a patient to recover damages, laying the amount at $5,000, from his physician for unskilful and negligent treatment of a dislocated elbow

and fractured arm. The physician then commenced an action before a justice of the peace to recover the value of his services in the treatment complained of from the patient, who was plaintiff in the malpractice suit. The patient appeared in the suit instituted before the justice of the peace for the recovery of fees, but interposed no defense and judgment was entered against him to the amount of $6.58. The physician, then, as a defense to the patient's action for damages from malpractice, set up the judgment rendered by the justice of the peace. Upon the principle above given the Supreme Court, and afterward the Court of Appeals, held that the judgment of the justice was a complete bar to the action for damages. The courts of West Virginia have declared themselves in harmony with this decision; so also have those of New Jersey and Arkansas. The contrary view has, however, been taken by the courts of Indiana, Ohio and Wisconsin."

In the foregoing I have given a few points in regard to the laws in surgery, more especially on those called malpractice. It is to be hoped, however, that the surgeon will not withhold his assistance, notwithstanding all may be in league against him, for his humane calling will, we hope, direct him always to be on the side of mercy.

Discussion.

Chairman W. B. Van Lennep, M.D.: You have all heard Dr. Willard's paper . For the benefit of those who are not acquainted, perhaps, with Dr. Willard as well as we are in Pennsylvania, I will say that he has done us an invaluable service in the question of malpractise suits. He has "won out" one of the most memorial libel suits on record, and in so doing he has gotten an opinion from the Supreme Court which will be of benefit to us all who practise in this commonwealth. Dr. Willard very modestly apologizes for his subject. At the same time I think you will all agree with me that this will come close to our hearts, as well as our pocketbooks.

H. P. Cole, M.D.: I appreciate the remarks of the doctor. I have been through a little experience of this kind and being a rather peculiar one perhaps you may be interested in it. I one day received notice that I was sued for $5,000 for malpractise, and the name of the plaintiff in the case being given, I looked over my books to see what had happened. I did not remember any such name. I couldn't find the name on my books. I remembered the date and looked at all that occurred on that date and found the name of a physician not far from where I lived, for whom I did some work on that day; I saw the case in consultation. The name I found afterwards and associated with the physician's name. I wrote to the physician. I said: "Who is this? What is it? What does it mean?" He

called on me the next day, explaining the case. I remembered all about it. A man had fallen from a scaffold and the physician not finding any fracture called in an associate and he found no fracture or dislocation, and I got into the case in consultation. The man was laid in a perfectly symmetrical position; every bone and joint in his body were moved; we could find no fracture or dislocation, simply a general disturbance. The time existing between the time I examined him and the time of the suit was two years. I learned first that the man was out in less than two weeks and going about as usual with a couple of crutches; sometimes he used them and sometimes he didn't. I was sued for fracture at the hip, that was the term used. I learned that a year after the first accident, the one for which I examined him, the man's son was about to be married. This man had a second floor built on the wing of his house, the roof not being quite finished. Some tubs were placed at points where the water came through. Later the man saw the tubs sitting there and it occurred to him that they might fall to pieces, so he went up to remove them. He picked up one with water in it and carried it without the crutches to the window; he tried to climb around onto the ladder, lost his hold and went to the ground, two stories, tub and all. He fell partly on the *tub,* and partly on the ground. After the *second* accident I was sued for the *first* accident, in which I was called in consultation. The matter was pressed pretty strongly for a time, but the family physician and myself secured a good lawyer and told them to go ahead. The accident occurred in 1890; the suit was begun in the winter of 1892-3, I think, and up to this date I have not been called into court, although I learned by inquiring about a year ago that the suit was not off the docket yet. I do not know what has become of it, but I am getting over somewhat my first anxiety about the matter and I don't think it will be heard from. It shows simply what they will do and what roundabout ways they will seek to get some returns. I understand the family are not in as good condition as at first. I was not called by the patient; I received no money from the patient, but was paid by the physician out of his own pocket the consultation fee, but I understand that makes no difference; the fact that you see the case, examine it, or have anything to do with the case in any way makes you liable, as the doctor says in his paper.

CHAIRMAN W. B. VAN LENNEP, M.D.: I believe I am the only one who had the pleasure of reading Dr. Willard's paper, and as I listened to Dr. Shears recounting his early experiences in herniotomy they reminded me very forcibly of my own early experiences in bowel obstruction. They are almost identical except that I had to face a malpractise suit at a period in my surgical career when I could ill afford it professionally or financially. Unfortunately, the majority of these cases belong to the hospital class, for which we get no remuneration and therefore cannot make a counter-suit for services rendered as suggested by Dr. Willard.

There is one thought which will be appreciated by those who live in centers where medical testimony is given a great deal, and that is

the unreliability of such evidence. Things have come to such a pass in some cities that I for one hesitate to give expert testimony in court when I am asked to do so for a consideration. We have, in fact, a very respectable class of men in Philadelphia who are termed by a number of lawyers professional liars—they are not quite as polite as Dr. Willard—and the impression seems to be with them that if you can get a doctor on the stand for $25, $50 or $100 he will swear to anything to help his patient. I am satisfied that it is our duty as physicians to live up to the fundamental principle of testimony and tell the truth, the whole truth, and nothing but the truth!

L. H. WILLARD, M.D.: The point is to sue the patient before or after he sues you and get judgment against him; that is a very good point in law and will hold good, I think, in every State in the Union. It is best not to wait until he sues you, but to go to work and get judgment against him and then, according to law, it bars his action against you. It is always better to be the plaintiff in a suit of this kind than to be the defendant; you have a better chance. I blame the doctors exclusively for giving testimony for the prosecution, but the thing is to be plaintiff and not defendant. As a rule, I should adopt it.

DEWITT G. WILCOX, M.D.: The practise that these patients sometimes resort to in order that they may get the opinion and later the testimony of the physician regarding their injuries is an important point. About a year ago a young man came to me and showed me the stumps of three fingers, told me that they were paining him and asked me if I thought they should be amputated. I said that I thought there would be cause for amputation. He said nothing about any physician attending him; he did not bring that into the case, but tried to get my opinion as to the necessity for a second amputation. I was guarded by saying it might be best to have a second amputation. He arranged to have it done. Sometime later I was served with a subpœna and found that he was bringing suit against the physician for improper amputation of his fingers. I told him that I would go on the stand, but that I wished it definitely understood that the physician had done the best he could under the circumstances and that I would not testify a word against the work he had done. He reminded me of the conversation at the time, that I had advised a second amputation. I told him that I was very guarded and said that it might be best to have a second amputation, and told him that the physician had done the best he could. I simply make this point to show that these patients will take this course to compel physicians to give testimony. I believe in Dr. Van Lennep's position. I will not go on the stand; it is only encouraging this class of cases.

D. A. FOOTE, M.D.: Suppose, then, the patient sues the physician. Can the patient bring in damages?

L. H. WILLARD, M.D.: According to law that is proceeding

against a physician and he cannot proceed against him. The physician first has judgment already against that patient and hence it bars further proceeding unless the judgment is reversed.

D. A. FOOTE, M.D.: Supposing suit is begun for damages, then the physician sues the patient for his bill. Then does that bring the damage in the case of the physician, whereas the plaintiff has a counterclaim against the bill?

L. H. WILLARD, M.D.: If the alderman gives judgment, that is entered and it is a bar against the action of the patient.

D. A. FOOTE, M.D.: Does this bring up the merits of damage suit in your suit? Can they bring any claim for damages as a counterclaim against your bill as a physcan?

L. H. WILLARD, M.D.: Cannot, because the alderman will generally decide for the plaintiff. The plaintiff pays the cost and you enter this up against this man, and it is a bar.

B. W. SHERWOOD, M.D.: I was acquainted with a case covering the point just mentioned. I was there as a witness for a brother practitioner in Syracuse some four or five years ago. The physician had been sued for malpractise in a higher court and he began suit for his services in our municipal court. When the suit for the physician's services came to trial in the Municipal Court the patient's husband, who was the defendant in that action, did bring as a counterclaim the allegation that the patient had been improperly treated and this question *was* considered by the Municipal Court. The doctor secured a verdict which was a bar to the action in the higher court. This would not have been the case had his opponent been able to substantiate his claim of malpractise.

H. C. ALDRICH, M.D.: Perhaps there may be an error, as I recall a case of Dr. Sheldon Leavitt. He was sued for malpractise a few years ago, plaintiff to the suit by bringing one for his services, and got judgment. The suit against him was done away with, was it not, Dr. Shears?

GEO. F. SHEARS, M.D.: I think there was no suit against him, but the doctor having heard that the patient contemplated suit, immediately began suit himself in the Superior Court for $1,000, the amount of his bill. I believe he had made a vaginal section beside attending the woman in confinement. I saw the patient in consultation, and in my behalf he begun suit for $50 for consultation, and I believe he did the same in Dr. Ludlam's behalf. The man was scared off and came in and settled. I think he never began suit, only threatened to do so and refused to pay the bill, but the promptness with which the suit for $1,000 was entered scared him off. He settled, I believe, for a good share of the bill.

H. C. ALLDRICH, M.D.: Another case which has been decided by the Supreme court of Minnesota this last year is one which I think is of particular interest. It is a case in which the widow of a man who died from sepsis sued the attending physician for damages. It was a railroad case. The man had his foot injured, it was amputated and reamputated the second time, septicemia developed, necessitating a second operation. The drain on his system was so great that he died. Later on the widow sued for several thousand dollars. The physician who attended the case, a Dr. Courtney, Brainerd, Minn., had witnesses, two doctors from St. Paul, one of whom had seen the case with him. The prosecuting witness was, I am sorry to say, a Homœopathist, and the fight was made that, not having seen the case and being a Homœopathist, he was not competent to testify. The jury gave the plaintiff damages for something like $3,700 and the case was appealed, but the Supreme court ruled that, owing to the preponderance of evidence in favor of the defendant and to the fact that the prosecuting witness was of a different school of practise from these men who gave the preponderance of evidence, the jury had exceeded their powers and ordered either a new trial or dismissal of the case—I have forgotten which. That may be a help to us sometimes if we can make that same point.

O. S. RUNNELS, M.D.: I was once sued for alleged malpractise. I want you to notice the distinction between the allegation and the matter of fact. The malpractise in my case was alleged. The amount sued for was $5,000. It was a case of hydrocephalus in a child about two years of age and resulted fatally. The father was an impecunious fellow and refused to pay the bill, but was industrious in circulating wicked reports about me. I entered suit on the bill, obtained judgment and undertook the collection by process. He promptly filed a schedule upon me and brought suit for the $5,000. My attorney submitted a list of interrogatories, one being: "Have you refused to pay the bill for services rendered, and did you file a schedule?" The answer to that quashed the case. Had he paid my bill or the judgment when obtained, he could have forced me into a lawsuit.

C. P. SEIP, M.D.: You are talking here about points of law; they differ in different States. You may get a judgment in Pennsylvania and hold it over because the patient cannot pay his bill, but that will not apply to this State (presumably referring to New Jersey.—Stenographer), except trusts; that is the only thing you can do here. I read a decision of the Supreme Court sitting in one of the New England States as to whether the man had paid his bill or not; he had a right to sue for damages, and even went so far that he could not claim until he had gotten judgment on his bill as a counterclaim against any judgment that might have been against him. We have not got such laws in Pennsylvania. But there was one case—the first of malpractise in which I was interested—and it came to me from an old-school physician, a very prominent surgeon in Pittsburg. He refused to attend the case because I found

that the dislocation of the shoulder had not been reduced and sent the patient to a friend of this physician who had been attending him. A suit was brought. The man went to New York and had an operation performed on the shoulder with no better results. I never said a word against the old-school physician; I simply said I did not want to have that case. The case came up for trial and upon my testimony it was non-suited That was one for the old-school. After that we had a perfect cyclone of cases, I believe fifteen or twenty malpractise cases in the courts—one or two against Dr. Willard and myself. The last case was the most perjurious I have ever heard in any court in my life. All the nurses that could be were brought up —five or six—and two or three internes, together with a number of physicians who had seen the case. The testimony was set aside by the jury because they sympathized with the man and a verdict was rendered against Dr. Willard and myself for $6,000. We have no recourse in those cases and here is where the great injury lies. A man of experience will conspire to bring suit against a physician; he goes to a lawyer and is trained to certain words with which to testify; he repeats them over week after week with the closest and most severe examination and it seems to the jury that that is conclusive; they are trained to that. And all the testimony that a physician can bring in will be of no avail. Our testimony was ten to one in this case. It is not so much the merits of the case as it is the testimony, and you will find that nine cases out of ten that go into court against malpractise, nine-tenths of the testimony is perjury, and you have no recourse. There are cases that we have had there that proved that conclusively. One of the last cases that Dr. Willard was in the old-school physicians were going to annihilate us. The case was that of Colles' fracture. Dr. Willard treated the case and had a usually fair result, but a little conversation with the old-school doctors brought the case around and it went into court and the testimony was diametrically opposite. Was that case non-suited?

L. H. WILLARD, M.D.: Yes.

C. P. SEIP, M.D.: We had a series of a perfect cyclone of cases and it was not until in a case of Dr. Willard, where we got a decision of the Supreme Court, that at least twenty cases to my knowledge were immediately dropped.

Gall-stone Impactions.

By DeWitt G. Wilcox, M.D.

So much has been written and spoken, during the last two or three years, regarding surgery of the gall-ducts and bladder, that the subject might be considered trite, were it not for the fact that great advance is being made, almost every day, in our understanding of the pathology of the diseased condition and the medical and surgical treatment of the same. While the specific nature of my topic brings me within the limitation of but one phase of this malady, yet I shall assume the poet's license and make it sufficiently elastic to consider the subject of gall-stones in general. This I must do ere I can make clear the point I wish to emphasize.

It is now a pretty well-established fact that the gall-bladder is no more essential to good health than the appendix vermiformis. The horse and some other animals are not provided with such reservoir. It may come to pass, in our ultra-superior existence, that after the baby has been christened, vaccinated, and circumcised we shall demand that its appendix and gall-bladder be removed. A sufficient number of cases now exist, wherein the entire gall-bladder has been removed, to establish beyond doubt, not only the possibility of living without that viscus, but to remain in perfect health, and even to be less subject to disease. Three years ago I removed the entire gall-bladder, for hydrops of that organ, and the patient is in perfect health to-day. The bladder was ligated close to its union with the cystic duct and then removed. So far as we now know, the causative factor in producing the formation of biliary concretions lies in the secretion of the mucous membrane of the gall-bladder. The desquamation of epithelial cells and the abundant secretion of mucous of this membrane have an effect toward the crystallization of the cholesterin. It is also to be noted that in every three out of five gall-stones examined the colon bacillus appears as a nucleus. Let us now note the effect of bile upon the system in general.

Bonchard says, that when absorbed into the system it is nine times as poisonous as urine. The liver may produce bile enough in eight

hours to prove fatal if all be absorbed. Hence it would appear that bile is wholly an excrementitious substance, and not an element of digestion as has been supposed.

The point which I next wish to emphasize is the symptoms produced by the long-continued absorption of bile into the circulation. This I can best present by the recitation of a case, which came under my observation this spring.

Mrs. W., aet. forty-seven years, history of gall-stones some twelve years since, was taken ill July 20, 1898, complaining of headache. Her temperature was 99°, pulse 75. On July 21st she was easier, but still complained of headache. She passed three stools, clay colored, with a very foul odor. The following day she was more restless.

On the afternoon of July 25th she complained of pain in the region of the liver, for a short time, with a sensation of fulness in the stomach. The following day she was given an injection of olive oil, with satisfactory results, the stools being large and frequent. The patient was slightly nauseated in the afternoon and refused nourishment. At six o'clock a stool was passed in bed, tinged with bile.

She now began to look jaundiced. She rested quietly till the 31st, when she was attacked with nausea and vomited mucus. The temperature was elevated to 100°, having been nearly normal the few days prior to this. On August 3d she passed four stools, in the evening, of a dark-chocolate color. She was nauseated and vomited continually each day up to the 18th, with a temperature ranging from 98° to 100°, when, on the aforesaid date, she complained of marked pain in the region of the liver, and a mustard-plaster was applied. There were eructations of gas, with a weak and intermitting pulse. This was followed by intense nausea and vomiting. On the 22d of August she complained of pain in the left cardiac region, was restless, pulse weak but regular.

She kept improving, slowly, until September 4th, when she sat up for the first time. She gained strength day by day and finally could take a walk each day, when the weather permitted. The nurse left her on the 1st of December, when she seemed to be improving until Christmas, then had a slight pain, and from this time she slowly grew worse. On January 20th had an earache, followed by the grippe, which lasted ten days. On February 8th she had a marked chill, but was able to walk down stairs on the 9th. On the 10th had another chill at six P.M. Pain was so severe morphine was given. Vomited some bile and mucus. On the 12th complained of pain in the region of the liver and back. She was chilly during the day and

vomited some three ounces of oil and nourishment, which she had taken during the day. She was easier for a few days. The 19th woke in the morning with pain between the shoulders and in the liver. She grew chilly and the pains increased, so as to necessitate morphine. On the 24th she was again attacked with pain in the region of liver, and morphine was again given, with the same results as above.

On the 25th she had pain between the shoulders, which was so intense that morphine was again given. Her temperature was 103° and pulse, 120. The 28th was ushered in with intense pain in the region of the liver; had another chill. On March 1st was nauseated and vomited some three ounces of mucus, oil and nourishment. On the 2d she was quite comfortable. On the following day she complained of pain in the region of the liver and in the shoulders. March 6th her temperature was 104° and pulse 116. On the 7th she was easy. On the 9th, 10th and 11th she had pains of a very severe character. Upon March 14th I operated for impacted gall-stone of common duct, this diagnosis having been reached by Dr. Hurd—family physician—Dr. Cook, and myself.

The operation consisted of an incision beginning at the juncture of the ninth rib, extending downward just external to the right rectus muscle, for four inches. No external adhesions. Liver somewhat congested, gall-bladder atrophied and bound down by adhesions, till it was scarcely visible. Opened into lesser peritoneal cavity, by tearing through with finger, demonstrated hepatic vessels and common duct. Difficulty in finding outlet of common duct, owing to adhesions. When found the calculus was at once discovered. This was at the extremity of the common duct, close to the duodenal outlet. By pushing the calculus upward toward the cystic duct it was brought into a position more readily reached. An incision was made parallel to the axis of the duct, carefully avoiding blood-vessels, and the stone forced out. A large quantity of clear, thick fluid escaped and continued to do so for a few moments. This was carefully walled off from the general cavity and mopped out. The patulency of the tubes was demonstrated beyond all question of doubt.

Duct was now closely stitched per Lembert, thrice repeated. No leakage followed. Cavity cleaned thoroughly and wound closed with rubber drainage inserted. Abdominal wound sutured first through and through (silkworm), second, continuous suture for the peritoneum; third, aponeurosis; fourth, integument. Operation lasted two hours from time of beginning chloroform to removal from table. Patient kept up well, requiring but little stimulant.

She came out of the anesthetic nicely, but suffered intense pain.

She vomited quite a good deal of bile and was very restless. Stitching pain over liver, slept fairly well, pulse good, some nourishment. Began failing at end of twenty-four hours, and succumbed at end of forty-eight hours, probably due to shock and the long-continued cholemia.

This is so typical of profound cholemia, that I need scarce add others in illustration, but while the case is still before us, I should like to say a few words about the ball-valve gall-stone. This peculiar and little understood condition plays a much more important part in biliary colic than is supposed. We are indebted to Courvoisoer for his brilliant and exhaustive monograph on this subject, in which he is a pioneer.

Christian Fenger of Chicago read a wonderfully clear paper before the American Medical Association, 1895, upon the subject of ball-valve action of floating choledochus stones.

While it is rare to find a stone lodged in the common duct (only about 4 per cent.), yet, when such is the case, it becomes exceedingly important that it should be recognized, lest in assuming it to be a common case of biliary colic we allow our patient to die from cholemia and exhaustion. William Osler reports one such case in the *London Lancet* of '97. "His attention was first called to this condition by a patient in the Philadelphia Hospital, who had been admitted a number of times with chills, fever and jaundice. The attacks had recurred for a period of about two years, and various diagnoses had been made, such as malaria, hepatic abscess, etc. Finally a diagnosis was made of Charcot's hepatic intermittent fever, probably due to a gall-stone lodged in the common duct. An operation was performed, but no gall-stone was found, and death occurred from peritonitis a few days later. Just beneath the mucous membrane of the duodenum and close to the orifice of the common bile-duct a gall-stone was found which could be pushed to one side. The author subsequently saw two similar cases, upon one of which he was able to perform an autopsy and obtain a similar specimen. The other is still suffering from recurrent attacks. Osler lays stress upon the valve-like folds of mucous membrane in the cystic and common ducts and upon the sphincter at the orifice of the latter. The fever must bear an important relation to the impaction of the stone, either by reflex irritation or by preventing the escape of toxic ingredients. The exacerbations of jaundice and fever, associated with intense pain, are due to the fact that a gall-stone lodged in the common duct and producing the symptoms in greater or less intensity during the interval, is pushed against the orifice, causing total occlusion. The symptoms,

then, of this variety may be given as follows: Chronic jaundice, rarely deep, and varying in intensity, at times almost or entirely disappearing, to deepen invariably after a paroxysm (the icterus may be of maximum grade and associated with intolerable itching), pain often a constant sense of discomfort, sometimes only obscure gastric distress, and at times agonizing, griping, and like ordinary liver colic; fever occurring in paroxysms, usually preceded by chills and followed by sweats. The chills may be quotidian or tertian in type, or they may recur for a week on the same day."

I quote this case as simply illustrative of the difficulty of diagnosing this obscure condition, as also of showing the profound poisonous effects of bile, when retained in the circulation for any length of time. The temporary occlusion of the choledochus occasioned by the rapid passage of small stones rarely causes alarming symptoms of cholemia. If the novice in surgery regards the operation of removing a stone from the common duct as simple, he best try it on the cadaver, where he may work an hour before he even locates it, for be it remembered the entrance of the common duct into the duodenum is in the lesser peritoneal cavity, and behind the duodenum, also that the duct passes through the foramen of Winslow, and is crossed by the hepatic artery and vena porta. Fenger reports two cases wherein no stones were discovered at the time of operation, but at the autopsy their presence was demonstrated, again showing how difficult, in some cases, it is to reach the outlet of the common duct during operation.

It is an interesting fact, that, while the passage of small stones produces intense pain, or the lodgment of a moderate-sized stone in the choledochus will cause cholemia and death, yet concretions of enormous size will form and remain in the gall-bladder, and their presence not be made known throughout the life of the patient, or perhaps they will, by a slow and almost painless process, ulcerate through the gall-bladder into the large or small intestine and eventually be discharged "*per vias naturalis.*" But this happy termination is not, unfortunately, always the case. With your indulgence, I will cite a most peculiar case, in illustration thereof.

Mrs. C., possessed a good family history, had been in comparative good health till twelve years ago, when she began having attacks of gall-stones. These were repeated frequently at intervals for six or eight times, when they came less frequent. In 1892 she had the grippe, did not make a good recovery, and had more gall-stone attacks, at this time began having intense pain in back and shoulder. Her stomach also gave her much trouble, rejecting all

solid food. From this time till her death, a period of five years, she ate absolutely no solid food. Malted milk and Mellin's food were her chief diet, occasionally taking some milk-toast or light cereal, but even food of this character gave her distress. Her bowels were quite regular during the whole period. Her greatest suffering was a pain in the back, about on a level with the lower border of the liver, which would radiate up the back and down both arms. At the time I first saw her, which was a few months prior to her death, she was the most emaciated person I ever saw alive, absolutely no adipose or connective tissue, and the muscle reduced to the merest fibers. She retained her mental faculties and was of the most cheerful disposition. Five days before death she ate absolutely nothing. Her complexion was of a mixture of cancerous cachexia and jaundice, with neither specially predominant. I diagnosed closure of the pylorus, probably due to malignant growth. The autopsy revealed a large calculus, size of a hen's egg, in the duodenum, just at the junction of the common duct. It was tightly wedged in the bowel, causing complete occlusion. The walls of the gut, surrounding the stone, were thickened and unelastic, but not cancerous. The gall-bladder was free, enormously distended with bile and pus, containing a quart of this fluid. There was no evidence that this stone ever passed from the gall-bladder by a process of ulceration. It might have ulcerated through the common duct into the gut, but gave the appearance of having passed the choledochus and there stopped.

I have seen two similar cases, in both of which I obtained an autopsy and demonstrated the presence of the gall-stone, with the same thickening of tissue surrounding stone and yet not true cancerous elements. In all three cases the physical conditions were closely allied to cancer—pain, autotoxemia, sallow complexion, weathered skin, vomiting, but no blood, nor was any blood passed per rectum. Each case came into my hands too late to resort to any surgical measures, yet had such proceeding been employed earlier a cure, no doubt, could have been effected. Hence, the great necessity of an early recognition of the exact nature of the difficulty.

We are again brought back to the starting-point, namely, that cholelithiasis is far more frequent than has generally been supposed and that a much wider range of symptoms are thereby produced than has as yet been recorded; furthermore, the remote effects of these calculi, both directly and indirectly, are shown up more clearly with our better understanding of the disease. A question now almost as pertinent as the one, "When shall we operate in appendi-

citis?" confronts us, "When shall we operate for gall-stones or cholelithiasis?"

Carl Beck summarizes these indications as follows: "Cholecystotomy, or opening the gall-bladder, should be performed as soon as the diagnosis of acute cholecystitis is made, and the same operation should be performed when acute attacks of biliary colic, associated with fever, return for a second or third time. It should be performed when jaundice is present for more than four weeks. It should be performed in gall-stone ileus. In all obscure cases where signs resembling peritonitis are found in the neighborhood of the gall-bladder, laparotomy should be performed."

Let me now sum up my thoughts in a few words. If bile is an excrementitious substance, and we have ample evidence that it is, then it has no place in the general circulation, any more than has the urine or feces. That it is poisonous and produces marked toxic effects can be shown by hundreds of such cases as presented. It becomes our duty, as medical advisers, to ascertain in any case of illness whether or not this poisonous substance is being properly eliminated. Jaundice alone is evidence that this elimination is not perfect. Malaria is but another manifestation of bile poisoning.

Any mechanical pressure, which becomes an obstruction to the free outlet of bile, is a menace to health and life. Is it not, therefore, of great importance that we should recognize early the first symptoms or indications that this excrementitious substance is slowly and insidiously finding its way into the circulation?

Is it not equally important that we should have at hand a ready, safe, and sure means for directing the flow of bile through the proper channel? Medicine alone will not accomplish this. Whipping up the liver is not the proper method, as that only increases the production of bile, but does not aid one iota in its elimination.

The true remedy, without question, lies in the selection of the proper diet, sufficient exercise, free clothing, and I would lay great stress upon the avoidance of the tight corset, and a thorough and regular evacuation of the bowels. I am inclined to believe that there is a larger proportion of diseases due to autotoxemia from bile absorption than to any other factor.

After an obstruction has once taken place, whether it be from stricture, ball-valve stone in the choledochus, or malignant changes, surgery is the only agent which will give relief. Olive oil and similar treatment is helpful in the expulsion of small stones, but it will never dislodge an impacted stone in the common duct. A gall-bladder that is prone to produce gall-stones periodically is a danger-

ous agent, and has no place or excuse to remain in the human economy, and the sooner removed the better.

I am inclined to go so far as to venture that suggestion (mark you, merely a suggestion) that there is a close relation between the retention of bile in the system and the development of cancer. Observe closely the striking clinical relations and tell me if they are not significant.

(1) All writers upon this subject—cholemia—seem to agree that the proportion of people suffering from gall-stones is greatly on the increase. It is an alarming fact that cancer is enormously on the increase. (2) It is rare to find a patient under forty years of age who has had an attack of gall-stone colic. A few instances are recorded wherein infants were so affected. It requires no presentation of statistics to show that cancer appears only after middle life. (3) The ratio of women to men, in gall-stone attacks, is as five to two. The ratio in cancer is nearly the same.

I have mentioned the fact that the colon bacillus is found in the substance of gall-stones, which is proof that cholesterin is a suitable medium for the growth and maintenance of this form of bacillus. Is it not possible that bile, when deposited into the system and finds permanent lodgment in the lymphatics, becomes a carrier as well as a feeding-ground for an as yet unknown bacillus, whose ultimate end and aim is the production of cancerous tissue?

This is but a suggestion, but I venture to assert that the bacteriologist alone will not find the cause of cancer—he must work side by side with the clinician.

Discussion.

Horace Packard, M.D.: Dr. Wilcox has covered this subject so well that there is little for me to say, except to emphasize the points which he has presented.

An operation on the common duct for the removal of gall-stones is no trifling matter. It is one of the most difficult operations that it has been my fortune to attempt. Dr. Wilcox has told you about occlusion of the common duct. It is deeply buried in the abdomen, closely surrounded by anatomical structures, interference with which means death to your patient. Stones lodged in the ductus communis are not very common, but when they do occur surgery may save your patient's life. It is a pitiable condition where you meet a patient who has been jaundiced week after week and month after month, presenting symptoms pointing to nothing other than benign obstruction of the common duct. It is to those that this form of surgery offers a boon.

Now, regarding the symptomatology of gall-stones. We like to

have a definite and full line of symptoms to render a diagnosis, but we don't always get them, and it is my experience that sometimes there is but a single symptom, or, at most, two symptoms upon which to base a diagnosis, *viz.*, pain in the right hypochondrium and impaired digestion. We like to complete the picture by finding not only the localized pain and digestive disturbances, but also recurrent icterus and calculi in the feces. Above all, we should search for gall--stones in the feces; that is the crucial test after all, and I am surprised as I circulate around the country to find that that one thing is so often neglected. In treating gall-stone cases we are prone to let them go on without resorting to this simple expedient, the very crucial test of all. If there be recurrent attacks of gall-stone colic, this should be done, and it cannot be properly accomplished by poking the feces over with a toothpick; they must be dissolved in water and passed through a sieve, then if they are present you will find them. One of the most interesting and successful cases that ever came into my hands was brought to an operation, in spite of the intense prejudice of the patient's husband, through that expedient. The patient had been treated, I do not know how long, for malaria. She had tinges of yellow at times, pain in the right hypochondrium and impaired digestion. Finally a consultation was called and inspection of the feces suggested. Fortunately the passage that very night yielded a gall-stone. The husband, who had fought against any suggestion of an operation, gave his full consent the next morning, and nine rough angular gall-stones were removed from the gall-bladder.

Sometimes after advising inspection of feces, bottles of little green, rounded boluses will be exhibited to show what an enormous amount of gall-stones were found after taking sweet oil. These are to be viewed *cum grano salum.* They are not gall-stones, but soapstones—saponified sweet oil; they look like boiled, half-grown marrowfat peas, crush easily, and on exposure a short time liquefy. Real gall-stones are hard, enduring, pearly, brown, yellow or black, and dissolve in ether, and are usually facetted and angular. You may imagine a well-rounded, single gall-stone floating in the gall-cyst and doing no harm. The question is how long such may be present in the bladder without symptoms. If the stone ever makes itself manifest, it is likely to do so through a ball-valve action at the exit, stopping the outflow from the gall-bladder. There is nominally a constant outflow and if that is checked by a stone the gall-bladder fills with mucus, and we have hydrocholelithiasis, a very menacing condition.

There is another point in the diagnosis of gall-stones, and that is finding a tumor in the right hypochondrium. If that, with icterus, localized pain, and impaired digestion is found, we needn't search further. If you find a tumor in the region of the gall-bladder that is tender, dull on percussion, circumscribed and fixed, you are justified in the belief that there are gall-stones there.

The dangers of gall-stones were fully dwelt on by Dr. Wilcox and the diseases that arise therefrom, not the least of which is abscess of the gall-bladder.

I would like to know from those present if they ever knew of abscess of the liver, irrespective of the gall-bladder. I have never known of abscess of the liver, unless pyemic, arising other than from the gall-bladder in consequence of gall-stones. We hear a great deal about liver abscesses and read about them in the text-books, but I do not believe they occur other than as mentioned.

Now, in obscure cases, with the absence of a complete list of symptoms, I have come to this conclusion, *viz.*, given a persistent pain in the right hypochondrium, in the region of the gall-bladder, even in the absence of all other symptoms, I nowadays make up my mind that there are gall-stones and I have operated on that one symptom alone and found them.

The frequency of gall-stones, I believe, is very great, greater than we realize. We know they are often found wholly unsuspected in autopsies.

Regarding medical treatment: We must not lose sight of that. It is claimed that the gall-stone "habit" is curable by medical treatment. I am not a physician, consequently I cannot speak authoritatively on that subject. I would like to ask my colleagues what their experience has been on this point.

GEO. F. SHEARS, M.D.: Dr. Wilcox gave me his paper as he came into the room and asked me to read it, but I was so much interested in hearing him read it that I did not do so. Whatever I have to say on this subject will be, therefore, somewhat fragmentary.

There were several subjects that were touched upon by the essayist and by the gentleman who opened the discussion on the paper that were interesting to me and one is the relation between gall-stones and cancer of the gall-ducts. It has been my misfortune to find on several cases in which I operated for gall-stones, cancer of the gall-duct and that the operation, therefore, was of very little service. I have not been able to determine in my own mind whether the cancer was the cause of the gall-stones, or whether the gall-stones were the cause of the cancer.

I left at home, when I came to the American Institute, a patient on whom I operated the week before, who presented many symptoms of obstruction of the gall-ducts, pain and the presence of a tumor, evidently the gall-bladder, and a great deal of soreness. I found twelve gall-stones, but I also found down about the gall-ducts a very pronounced tumor, which I believe to be a cancerous growth. It entirely obstructed the duct and I therefore made a cholecystenterostomy and left the patient. He was recovering nicely from the immediate operation, but so far as I see there is no prospect of a permanent recovery. I am inclined to think that if, as has been said, the use of the pipe and the irritation produced thereby may localize cancerous trouble on the lower lip, if the occupation of cleaning chimneys in olden times did produce chimney-sweep cancer, if the irritation around the nipple does result in the formation of cancer, as has been claimed, there is no very good reason why we should not believe that in one who is to some degree liable to cancerous troubles, the presence of an irritating stone in the gall-bladder may

produce cancer of the gall-duct. I am, therefore, very much in favor of operation, not only on account of the danger of possible development of cancer but because of the possibility of death from obstruction of the gall-duct and the entrance of the bile into the system. Reasonable efforts should be made with remedies and with sweet oil. I have confidence in oil. I believe that it is efficacious not only in favoring the discharge of inspissated bile and the little stones referred to, but also in aiding the passage of real stones. In patients who have had fifteen or twenty attacks of colic the administration of oil has resulted in the passing of forty or fifty gall-stones, the patients subsequently having no attacks of colic, although before the use of oil the attacks had been frequent and often the temperature running up to 103°. It is not always of service, but I have had sufficient proof of its value to warrant me continuing that practise for a reasonable period of time, and that period of time having elapsed, the oil being of no service and the administration of remedies being of no service, I believe in prompt operative measures. I believe the suspicious cases that do not respond to treatment should be operated on and that before jaundice is pronounced. My experience is that operations made when jaundice is pronounced are unsatisfactory. Patients in that condition stand operations poorly and hemorrhage is difficult to control. For that reason I do not believe in waiting until jaundice is a prominent symptom. Try your medicines, give them a thorough trial for a time, but if they do not work don't wait, open the abdomen and remove the gall-stones. It is not an easy matter to remove a gall-stone from the common ducts and sometimes it is a comparatively small stone that produces the trouble. The following procedure makes the suturing of the duct easier. Put in the number of stitches you need before excising the duct and while it is dilated with the stone, then pull them aside with the hooks and remove the gall-stones. This plan is not original with me. Dr. Elliott of Boston suggested it. But it is a very good procedure and I endorse it. I have tried it in one or two cases. With all the symptoms of gall-stone present, occasionally you will fail to find the stones. In one case operated on by me, notwithstanding the most careful search, no gall-stones could be found. I brought the gall-bladder to the abdominal wall and stitched it there, allowing the bile to run out on the surface of the abdomen until the patient got sick and tired of it. I tried to close the opening and all the symptoms came back, showing there was occlusion of the common duct; then I opened the abdomen, united the intestine to the gall-duct and the patient made a nice recovery. I am very much interested in Dr. Wilcox's paper and thank him for the courtesy implied in asking me to discuss it. I wish I had had the time to more thoroughly prepare myself.

M. O. TERRY, M.D.: Dr. Packard has brought up the question as to what the medical treatment might do to prevent the operative procedure. The surgeon can remove incurable conditions at times, but the causative factor should always be considered. Unless this is done there can be no permanency in the cure by the knife. The

best treatment which I have tried is that of sweet oil given in six ounces at a time, as related in the *N. A. Journal of Homœopathy,* vol. vii, p. 395. This dissolves the stones to a large extent and dilates the ducts. In conjunction with this, properly dieting at the same time, give phosphate of soda in ten to thirty-grain doses, ingluvin, muriate of hydrastin, nux vomica and arseniate of soda. It is very important to establish a regular movement of the bowels. Most cases are curable medically. Within three weeks I have done an "Ideal cholecystotomy." Where we can drop the bladder into its normal place with no resulting fistula the operation is satisfactory. When, however, there comes into one's office a girl of 18 or 20 with a fistula of years' standing and she states she would prefer death to such an annoyance, it behooves us to avoid the knife unless absolutely necessary.

J. M. LEE, M.D.: In biliary calculi and inflammatory diseases of the cystic and common ducts, the manner of stitching the gall-bladder to the abdominal parietes is an important step. It is a common custom to unite the gall-bladder to the skin, and most operations are recommended to be done in that way. This is not the better plan where you desire to drain the gall-gladder till the inflammation subsides and the thickening of the ducts disappears. In such cases take care to stitch the gall-bladder to the muscle below the fat and pack down to that point. When the gall-bladder has been drained sufficiently and the inflammation has subsided, one should discontinue the packing or else employ it until the wound closes from the bottom and cicatrizes over. If such treatment is employed there will be no further trouble and no need for a second operation. In case the gall-bladder is stitched to the skin, its mucous surfaces will not unite and it becomes necessary for the surgeon, after the inflammation of the ducts has subsided to freshen the gall-bladder and skin and unite them by suture to cure the fistula. If the operation is done as above, it is unnecessary to do this second operation.

CHAIRMAN W. B. VAN LENNEP, M.D.: In the absence of any further remarks the chairman would beg leave to give one or two suggestive thoughts. In the first place, in regard to the operations in which no gall-stones are found, I recall two cases—one in which after a thorough search for the gall-stones was made we were able to make out inflammatory adhesions compressing the common duct, and on that account, not being able to remove them, as they were outside of the gall-duct, cholecystenterostomy was necessary. In another case—which up to this date I have been unable to explain—the gall-bladder, which was very much distended, particularly with mucus (there was very little showing that there had been obstruction to the cystic duct)—bile in it—was opened and stitched to the skin and the woman, I thought, was doomed to have a permanent fistula. It was not but a few days afterward that the bile commenced to flow freely through the wound, and by the use of the hot iron, touching the edges of the gall-bladder, we were able to close the fistula. Why she had this accumulation and what the obstruction was I do not know, unless it was a kink. Another point I want to call attention

to is the symptom of distention of the gall-bladder, with jaundice. It is said that when we can feel an enlarged gall-bladder in a jaundiced patient we must make the diagnosis of carcinoma. Some writers say this is not so. I have been able to verify this condition a number of times. If we have a stone in the common duct, why should we not have distention? The gall-bladder in consequence of cholecystitis is probably contracted down. It is a clinical fact on which I place a great deal of reliance.

Another interesting point in connection with operative work on the gall-bladder is the peculiar formation of the subhepatic space, which is to me of great interest. The subhepatic space gives you a sort of room, drained by a lateral gutter, in which you can take more liberties than in the free abdominal cavity, and that is the reason that we can carry out our manipulations on the gall-bladder with greater ease and success. We have the stomach and duodenum internally the liver above and the kidney behind. When you come to notice the post-mortem staining this subhepatic space is well marked and shut off. Added to this, the gall-bladder lying high up under the diaphragm, we are not apt to have subsequent hernia. So that I have no hesitation in making use of the iodoform-gauze pack, followed by a secondary suture.

I should like to mention one other point—the characteristic symptoms of malaria, chills, fever, sweat. I remember a case I saw with Dr. Goodno; the patient had chills that were enough as claimed to shake the house, followed by fever, a temperature running up to 105°-6°, and then a tremendous sweat. This man had been treated for malaria for years by quinine and arsenic. He had the tenderness in the region of the gall-bladder and another clinical symptom—pain running down to the umbilicus, and that, you remember, is supposed to indicate a stone in the common duct. On opening the abdomen we found that the stone was not in the common duct, but in the cystic duct. However, on making a little pressure on the stone, we could push the end of it into the common duct. In this way his attacks of jaundice, which were intermittent, came on. The stone was pushed by the mucus in the common duct and in that way obstructed the common duct. The experiment that bears out that these chills were due to obstruction was what took place subsequent to the operation. Having removed the stone, I packed to prevent the flow of bile for a few hours. Therefore, I packed tightly into the cystic duct and gall-bladder a long strip of gauze. To my disgust, forty-eight hours afterward, I was called out to see him on account of another tremendous chill, found his temperature well up and this was followed by a chill. There came a tremendous gush of bile, after the removal of the gauze, and as long as that ran out there was no recurrence of the chill. The fistula healed readily with the aid of the hot iron. As regards difficulties, there is nothing so difficult but what there is something more difficult. Operations on the common duct are difficult, but when you come to undertake an operation on the hepatic duct, then you will have troubles of your own.

DeWitt G. Wilcox, M.D.: I would only emphasize again the difference between the chronic cases, where the gall-stone is impacted in the common duct, and jaundice, fever and sweats will run along for weeks and months, and the simple periodic passage of gall-stones without obstruction or but temporary obstruction. In this case it ran along for eight months. The other form is that in which the gall-stones are in the gall-bladder and discharge periodically, and, in the meantime, the patients are perfectly well. You have had these patients with gall-stone colic suffering intensely with chills; the gall-stones are passed out into the intestines and then they are well again. What can we do to prevent the return of these attacks? I know a case where life was made miserable on account of expecting to have a return of these attacks. That is where gall-stone surgery is going to come in with excellent advantage by removing the gall-bladder. It has been demonstrated that patients live without the gall-bladder, and if the mucous secretion in the gall-bladder is the cause of the formation of these concretions, then the removal of the gall-bladder, which takes with it the mucous membrane which thus secretes, is a further prevention of these gall-stones, and will forestall these attacks.

The Operative Treatment of Fracture of the Patella.

By W. H. Bishop, M.D.

It is not the purpose of the writer of this paper to discuss the several methods of treating this fracture, but to take up the operative work and to point out, if possible, the great advantages derived from surgical interference. Many reasons which have been good and logical in the past now cease to have much force in any argument against operation. Function is rarely, if ever, fully restored in any case treated by the old confinement method, and it must be remembered that the time required to carry out this treatment is four or five times as long. The objection raised against operation is that the danger of infection is too great to allow cases to go to operation that do even fairly well under the ordinary treatment. These wounds will follow the same course as other wounds, and the operator should not hesitate to open the knee-joint, because the chances of infection are no greater in this region than any other. The knee-joint has been a great source of anxiety to surgeons, but the time has arrived when wound-infection is traceable to its proper sources. The operation, fortunately, has many points in its favor, and its advantages outnumber many times its apparent objections. The bond of union in one case is poor, at most, fibrous and liable to refracture, and if the patient's occupation happens to be a laborious one, he is usually incapacitated. The union on the other hand, in properly operated cases, is bony and has been accomplished in one-third of the time and is not liable to refracture.

I believe that no one will dispute the fact that it is impossible to obtain bony union in all unoperated cases. Atrophy of the quadriceps extensor has always been considered equally as serious as the fracture itself, and repeated demonstrations have proven that many cases have made excellent recoveries, so far as function is concerned, where the entire attention was directed to massaging of the muscles and paying little or no attention to the close union of the fragments. The causes of disability are found to be due not alone to the

lack of a close approximation of the fragments, but also to some opposition to the descent of the upper fragment produced by the retraction of the lateral and upper portions of the capsule. The cicatrization of the torn and retracted capsule to nearby tissues, together with the enlargement of the patella, are frequently causes of loss of function. After the treatment by massage alone 25 per cent. of the cases suffer refracture. After the confinement treatment 13 per cent. were followed by the same action. Of all the cases operated only seven cases of refracture have been reported out of many hundred treated. The period of confinement is so short in operated cases that atrophy of quadriceps extensor is not noticed, while this diminution in size and strength of the muscles of the thigh is always noticed in cases treated by the old methods.

If a case undergoing operation is viewed carefully it will be noticed that the fragments are found somewhat tilted upward, the fractured surfaces presenting to view as soon as the soft tissues are incised. The torn periosteum dips down between the fragments like a fringe and the lateral portions of the capsule are found extensively torn and separated far down on the side of the joint. The hemorrhage into the joint is always severe, sometimes is very excessive, and in many cases will infiltrate a large area over the front of the thigh, usually between the skin and the fascia. The fractured surfaces of the bone are found to be bleeding profusely and this hemorrhage continues for a long period. Hemorrhage from the vessels of bone does not cease as readily as in other tissues and again there is always a wide separation of the fragments and we do not have the help obtained from the pressure exerted on the fractured surfaces, as we ordinarily have in broken bones. Unless these fragments are approximated, the blood evacuated, and the soft tissues treated as other wounds, repair, as we ordinarily understand it, is out of the question. When the confinement method is employed, new tissue fills in the gap of actual separation, both in the bone and soft tissues. It is irrational to expect, yes, impossible to secure useful limbs after this treatment. The most important joint in the whole body is filled with new tissue and callus.

Before proceeding to the narration of the different operations, it is at least a matter of interest to state that the open operation is best suited to adults. Operations of this character on old women, women of sedentary habits and children should be avoided.

The so-called "subcutaneous method" is fast passing out of favor. Objections to it are many. It requires the same care and preparation of the leg, and undoubtedly the same attention as regards

the rules laid down for other operations. A most serious objection is a constant tendency for the suture to allow retraction of the fragments by its steady cutting into the soft tissue through which it has been placed. At the end of one week's time the fragments have frequently been noticed to be as far separated as before the operation. The open operation has been highly satisfactory, especially since silver wire has been supplanted by absorbable sutures, and it is needless to add, since the better understanding of the treatment of wounds. The longitudinal incision is to be preferred, and all the soft tissue down to the capsule should be incised by one stroke of the knife.

This incision should be about six inches long, so as to give free access to the deep parts. While the edges of the wound are retracted, the fractured surfaces of the bone may be inspected, the joint wiped dry of blood and all bleeding vessels secured. The fractured surfaces of the patella will be seen to bleed freely. No attention need to be paid to this bleeding, because it will cease immediately upon approximation of the fragments.

The torn pieces of the periosteum hanging down between the fragments should be trimmed off. In introducing the sutures it is far better not to introduce them through the bone, but to stitch the torn periosteum and torn capsule. Chromicized catgut is the best material for this purpose and the first suture should be introduced at the extreme posterior margin of the torn capsule. If the fragments are thoroughly elevated at this stage of the operation, these angles may be easily seen. The entire ruptured surfaces of periosteum and capsule are then successively sutured by interrupted sutures. A continuous stitch of catgut should be introduced through the superficial fascia and the skin incision closed by interrupted sutures.

Drainage should not be used. The after-treatment consists in placing the leg in the extended position in plaster of Paris. At the end of four weeks it is safe to allow the patient to walk.

The cast should be worn for two weeks longer, but it should be removed daily to allow the leg to be massaged. Passive motion may be started at the end of five weeks. At the end of six weeks there is no risk in allowing the patient to use his leg without the support given by the cast.

Stitching the torn periosteum and capsule will give far greater satisfaction than direct suturing of fractured surfaces of the patella. Since discarding sutures placed through the fractured surfaces of the bone, I have operated during the past eighteen months six cases

and have one under treatment at the present time. At the end of five weeks in some cases, six weeks in others, the casts were removed and daily passive motion started. The patients, however, were allowed to walk, the leg being supported by the cast at the fourth week.

Forcible flexion of the knee was not practised in a single case. The results have been uniformly good, in the older cases perfect function has been restored.

Two cases of this series are comparatively recent, and great caution as to flexion has been taken. They are both less than seven weeks.

The advantages to be derived from open operation, especially when the method of stitching the torn periosteum and capsule is followed, are:

1. Short period of confinement in bed.
2. Ability to walk and do light work in five or six weeks.
3. Freedom from the pain of frequent dressings, especially where adhesive plaster straps are used.
4. Opportunity to have muscles of thigh massaged and thereby prevent atrophy.
5. Less liability of refracture since the union is bony.
6. Less danger of fracture of opposite patella occurring from over-development of muscles of thigh on account of increased work of the uninjured side during the many months of disability from the fracture.

Discussion.

George W. Roberts, M.D.: Not having had the pleasure of reading this paper the few things I have to say are based merely on the ideas which have occurred to me while listening.

The Doctor has referred, in the first place, to the fact that to-day we are better able to deal with these fractures by the open method than ever before, and it seems to me that is a very important point, one about which we cannot think too strongly. If a man is capable of doing surgery at all, he should be capable of going into the knee-joint, or any other joint, or into the abdomen, without any material danger of infection. Of course, there is an element of risk, which is perhaps somewhat beyond our control. We cannot stand over every single nurse and see her wash her hands; we cannot be present at the sterilization of every bit of catgut and every wiper; nevertheless, the surgeons doing hospital work are able to operate on clean cases with a very small percentage of suppuration. That brings this method of treatment into a very different position than it occupied even five or ten years ago, because certainly the technique of surgery has advanced greatly within that time, and, there-

fore, I think it is a very nice thing that this point was brought up at this time, for our ideas on this subject and surgical subjects need frequent revision. A comparison between the operation as performed to-day and the old method of treatment by splint and bandage, and a comparison of this method ten years ago and that old method, show that they are not the same thing at all. I agree with the Doctor in the advising choice of this method; next, upon the inadvisability of the subcutaneous method of suture; not only does this apply to suturing the patella, but all subcutaneous operations are going out of date. As the author of the paper has well said, they possess all the disadvantage of an open operation and none of its advantages. With the open operation we have the opportunity of cleaning out this cavity, which remains between two fractured ends of bone, and bringing the fractured surfaces in contact. It is surprising to one to learn what poor union takes place in these cases which we have treated by the old method. That is not only demonstrated by the refracture (seventeen per cent. of all cases having a refracture), but is brought especially to our notice when we have operated one of these refractured cases, which recently happened to me. A man had sustained a fracture of the patella a few years ago and had gotten what was termed an "excellent result." He was standing perfectly still on the corner of Third avenue and started to make a step, when it refractured. Two days afterward I opened the joint and could not find a single evidence of "fibrous union." He had three-quarters of an inch of separation and I expected to find a lot of fibrous tissue, but had it not been for the history I could not have determined that he had had a fibrous union. That was the weakest sort of union and it lessened my faith in the old method.

I am glad to learn that the Doctor advised the suturing of the soft parts and not the bone. I believe that the use of the buried metallic sutures, or any other form of permanent buried suture, is fast going by. It is illogical and impracticable and with the present methods of preparing catgut and kangaroo tendon and such absorbable sutures I think we should invariably depend upon them.

CHAIRMAN W. B. VAN LENNEP, M.D.: I do not wish to inflict myself too frequently on the members. As a matter of fact, with regard to the treatment of fracture of the patella, I hardly know "where I am at," if I may use the term. I have, of course, practised the open method a number of times. I think the results in my hands with the open method have been perfectly satisfactory. I thoroughly agree with Dr. Bishop that all methods which resemble in any respect the Malgaigne hooks—the subcutaneous method, as carrying out the practise by some American surgeons—are to be deprecated as giving us short fibrous union and that we should attempt to suture the lacerated capsule and periosteum, the only difference in the technique being that I have passed the suture all the way around the bone—a suture of catgut or some material that didn't absorb—through the quadriceps and patellar tendon, knotting it on top. And, yet, on the other hand, I think, when I take a stand in regard to an

operation of that kind, it is very much like the stand I must take when I am teaching—talking to the students—which must apply to the rank and file of men throughout the country. I suppose that 90 out of a 100 fractures are not treated by us, but by the general practitioner. Very much like the advice I give for operations on the rectum, particularly hemorrhoids. I had been in the habit of teaching the Pratt operation until a former student came to me with a wide-open anus he was responsible for. So I have attempted to teach the safest method, and, therefore, I recommend the clamp-and-cautery. The same thing in making a broad statement with reference to fractures of the patella. In the Hahnemann Hospital we treat them by the confinement method. A patient is brought in and the limb is put on an inclined plane; a strip of adhesive plaster is placed above the bone; an ice-bag is applied; at the end of ten or twelve days approximation has commenced. If the blood does not absorb or inflammatory symptoms are present, we practise the open method. If absorption has taken place thoroughly, his limb is put in a plaster-of-Paris cast, and he is sent out. Our hospital is so crowded that we cannot keep these fractures in more than two weeks. He is sent into the dispensary with the cast on. It is removed, and then massage and muscle-beating are applied to the quadriceps extensor. It was but a few years ago that Bull came out with a very thoughtful article to show that the probable results in the average case were fully as good by the confinement method as any other. Such a patient goes three months with a cast and crutches, three months with a cane and then works out his own salvation in flexing the knee.

To sum up, I think that in the hands of a technical man, who has the conveniences for carrying out the treatment, I should rather have my patella cut into and sewed up. If I happened to fall and break my patella at a distance from the surgical center and should not be sure of having such treatment, I would rather take my chances on the confinement plan.

H. P. Cole, M.D.: There is one point that occurred to me, whether the capsule of the patella was strong enough to resist the possible tampering with the dressings that the patient might undertake—whether the stitches would pull out and allow the bone to separate. Would it not be advisable, or is it ever customary, to resort to the advice that Dr. Van Lennep has spoken of, surrounding the patella with a support of some kind.

W. H. Bishop, M.D.: I have not found it necessary. In these cases of comminuted fractures, with four or five fragments, you should use the ligature that Dr. Van Lennep spoke about, in connection with the interrupted sutures.

H. P. Cole, M.D.: It seems to me that having to expose the space is dangerous, because we so often find so large a clot of blood and so much interference with the space between the two bones. It seems a hazardous plan, under the circumstances of which Dr. Van Len-

nep spoke, to attempt to unite the bone without looking at the space between. The question of the strength of the capsule, the pulling out of the stitches in spite of our care occurred to me.

W. H. Bishop, M.D.: I will say that these cases all have been operated under the most advantageous circumstances. In fact, the whole series were operated with the use of rubber gloves, not only on the hands of my assistants and myself, but the nurses also had them on; this has been my custom. Perhaps the first two were not, but in the last eleven or twelve months all the cases have been operated by that method, and I heartily agree with Dr. Van Lennep that unless the surroundings are perfect in reference to technique, I should not advise the newer operation.

Some Observations on the Treatment of Hip-Joint Disease.

By Ralph Jenkins, M.D.

Whether any good is to be derived from carefully compiled statistics on the ultimate results of the treatment of hip disease is a question. So many apparently slight alterations in following out at home the instructions of the surgeon alter the case. The child will often be deceitful in saying that he has used his crutches constantly, or that he has not had a fall, or that he did not loosen the extension straps from time to time, etc. Also the neglect of the parents to have the plasters removed often enough, and to have the brace repaired when it becomes loosened or broken. So it goes, a hundred and one things tend to lessen the value of following out and carefully noting the progress and results of a number of cases. Still, in a way, these records must be of some value, because, after all, they do show a certain picture, and as all things go by comparison, we must study them closely.

The most recent compiling of results is recorded by Drs. Gibney, Waterman and Reynolds, in a paper read before the American Orthopedic Association at Boston. Here we find a record of one hundred and fifty cases which were treated in the Outdoor Department of the Hospital for the Ruptured and Crippled, many of these were operated and treated in the hospital proper. A hasty résumé of these cases is as follows:

Age—youngest, two years; oldest, nineteen years.

Cured	107
Still under treatment	25
Advised readmission for correction of deformity	7
Deaths	11
With abscesses	51
Without abscesses	99
Angles of deformity when cured, flexion—	
Straight	47
From 20 to 30 degrees	30
From 30 to 40 degrees	20
From 40 to 50 degrees	10

Shortening in cured cases—

Without any shortening	21
From ¼ to ½ inch	19
From ½ to 1 inch	31
From 1 to 1½ inches	13
From 1½ to 2 inches	9
From 2 to 3 inches	9
3½ inches	3
4 inches	1
6 inches	1

In cured cases—

Average shortening at first observation	1 inch
Average shortening at final observation	1⅗ inches
Of the cases without shortening on the first examination	35
Of the cases without shortening on the final examination	21

Thus fourteen (14) of these earliest stage cases could not be held or controlled sufficiently to prevent shortening.

As to motion in the cured cases—

Perfect motion	15
Good motion	22
Limited motion	41
Ankylosis	9

Having been associated with this dispensary and hospital for one year and being perfectly familiar with the methods of record and measurements and the treatment, I know that these figures are honest and as carefully compiled as is possible, and given with the sole desire of showing results, be it either for the credit or discredit of the methods used. A careful examination of this table will prove that by no means is the treatment of hip-joint disease, as we now understand it, at all sure as to its final results. The chances all point in the direction of there being some deformity, either flexion or shortening, and more often both. Now why is this? What is the matter with our methods? Why should fourteen out of thirty-five cases, taken when the disease has just shown itself, prove to be of so violent a nature as to be beyond the power of the surgeons at that institution—which, I am happy to say, is one of the best of its kind in the country. Again, why should only fifteen cases out of 107 get well with no loss of motion, 22 have good motion and 41 have only limited motion? Surely there must be some explanation for these results. Is it that the method is wrong, or is it due to the neglect of the parents in properly taking care of their children during the years of treatment, or is it that hip disease

is, in many cases, beyond the power of man to cure perfectly—and are we to consider these figures and facts the acme of perfection?

Let us look at the course of treatment followed out.

Seventeen had stretching and splint.

Fourteen had plaster of Paris and splint.

Twelve had braces.

Nine had aspiration, curetting and splint, etc.

They all at some time wore a splint with the exception of one, which had pulley and plaster of Paris.

Many of them were aspirated or curetted and eleven had tenotomy performed.

The kind of splint used at this hospital is the Taylor long-extension splint, which is used either with or without crutches and a high shoe.

This splint is familiar to most of us, but those who have forgotten its shape will remember it when I describe it as being a long rod extending from one inch below the heel to a band of steel going around the waist. Straps are attached at the right angular foot-piece and are buckled to plasters on the leg. To produce counter extension, perineal bands of webbing are buckled to the waistband anteriorly and posteriorly; a band is strapped to the ankle for the purpose of holding the leg tightly against the brace.

At the institution mentioned I have seen most of the cases come into the dispensary without crutches or a high shoe, and walking very comfortably with apparently no pain. The old plaster removed and the leg washed and new plaster applied, the splint adjusted and off they go for three or four weeks, or until the plasters become loose. As to the use of crutches, that may now be changed, but it was not so four years ago.

At Dr. Shafer's clinic, where hundreds of these cases are treated, the same splint is used, only he prefers to have more motion at the point where the waistband is attached to the side rod. Why he thinks this motion is desirable is more than I can say.

To continue on this line of treatment. I saw many cases at the Children's Hospital, Boston, wearing the same splint used at the Ruptured and Crippled, only there the surgeons, Messrs. Bradford and Lovett, used the high shoe and crutches, and on no account allowed the cases to walk without crutches.

It was my good fortune to be permitted to make thorough examinations of any or all of the cases at any of these institutions. In the vast majority, yes nine-tenths of the cases examined at the New York clinics mentioned, I found flexion to be present, in some cases

very mild, in most of them to a considerable extent. I found, however, that there was less flexion and deformity at the Boston clinics and put that down to the fact that the high shoe and crutches were used and the patient not allowed to walk on the diseased leg. In no way do I wish to make this paper or my remarks personal, but it is impossible to state my side of this treatment, looking at it from a hard, common-sense and practical standpoint, without calling a spade a spade. If one's finger is cut it certainly is not wise to break open the scar or disturb it in any way to see how it is healing. If the law of cure of all joint diseases is rest and absolute rest at that—and I do not see how such a law can be well changed—then why not try and follow out mechanical treatment so perfectly that absolute rest will be accomplished as near as it is possible? If the rule of extension is a good one, and I think in this country we all agree on that point, then why not try and have perfect extension? It does not take much of a mechanic to see that in using the Taylor brace as a walking brace with the extension straps drawn as tightly as possible and against which the weight of the body must come pressing against the perineum at each step, until the foot reaches the floor or gives to a great extent, there is bound to be letting up on the extension at the foot end. If such was not the case the perineal straps or bands would have to be tighter than the child is heavy—which condition would be an absolute impossibility for the patient to tolerate. What is then the result of walking—on the brace? It is just this: Every time the child takes a step the extension gives and takes, gives and takes, ten thousand times a day. Can this be good for a tender and much-diseased joint? I think not. Does the Taylor brace produce rest? Most certainly it does not. Every time the leg is advanced to step the joint moves, and if there is motion at the band then it moves all the easier. Every time the child sits down or gets up the joint moves considerably. How is it possible with only one fixed point to hold any joint, much less a ball and socket joint? Are the surgeons afraid of causing ankylosis if all motion is checked? Why, the best way to ankylose a joint when diseased is to move it, and perhaps by and by motion will grow less and less until ankylosis is accomplished. On the contrary, rest will prevent ankylosis, if it is possible to do so. A healthy joint can be done up for twenty-five years absolutely immovable, and at the end of that time it will be perfectly healthy, only the muscles and tendons will need attention in order to restore perfect motion.

The old idea that rest would cause ankylosis is now, by up-to-date men, looked upon as a false theory.

It is no new law of mechanics which proves that in order to hold a hinge or joint firmly it is necessary to have two fixed points. This must have been known as far back as when the ark was constructed. Dr. Thomas of Liverpool appreciated the importance of two fixed points when he devised his most excellent fixation splint, which consists of two bands, one around the chest and one around the pelvis, and a flat rod connecting them and extending down the back of the leg to the foot, following closely the line of the body. The leg is strapped to it and is held firmly. The fault with this splint is that it is impossible to have extension, and thus relieve joint pressure. Even without the extension, given my choice between the Thomas and the Taylor splints, I would take the Thomas splint every time, for that, at least, does do one thing well. Whereas the Taylor splint, when used as a walking splint, accomplishes little else than a support.

Dr. Phelps of New York appreciated the faults in Dr. Thomas' splint and constructed a splint with the chest band and pelvic band making the necessary two fixed points, and then had the rod connecting pass down the side of the leg and with a padded ring through which the leg is passed and pressed against the tuberosity of the ischium for extension pressure. Straps are used as in the Taylor brace, passing through buckles which are fastened to plasters on the leg. In addition to this, Dr. Phelps advises a band to be put around the upper third of the thigh and fastened to the side bar to produce lateral traction. Thus making traction in the line of the neck of the femur and is undoubtedly an excellent thing. In this splint are combined almost absolute rest and extension and the joint is firmly protected from injury. The ring is the only difficult thing to accurately adjust and requires much experience on the part of the maker to perfectly fit. In the hot weather I have found when the skin is sensitive much chafing and soreness will follow. In two of my cases I have been obliged to remove the ring entirely after it had been worn for some months before the hot weather began.

For the last two years I have used the Phelps splint with this modification: I have riveted to the pelvic band two buckles anteriorly and two posteriorly, and have used the perineal webbing bands as used on the Taylor splint. This permits the brace to be easily removed, simplifies its construction and, as far as I can see, accomplishes the same result. I can honestly say that at the Post-Graduate Hospital, where the Phelps lateral traction long-extension splint is used, the results are the best to be found in New York or in any city where I have examined cases under treatment.

As to my own results I have used it in all my cases and have had nothing but satisfaction. There have been no deaths and comparatively few abscesses, and several of the cases have recovered without any loss of motion or shortening, in fact, with perfect results. When the case first comes to me I at once put the patient to bed and apply strong extension by the weight and pulley, always drawing in the line of the deformity, and only changing the angle of the leg as the muscles give up. This can be accomplished in nearly every case, even if the deformity has existed for a year or more. Under no consideration should the splint be put on until the leg is straight. Then the Phelps splint will hold it so throughout its entire course. I insist on the constant use of crutches, put on a good high cork sole on the well foot, inspect the cases often and never allow the plasters to grow very loose.

The following five cases are taken in the order in which they are recorded and the results are a fair sample of my others:

Case 1.—Little girl, aged five years. Tubercular history. Had a fall from a tricycle. In three weeks after fall was brought to me. The deformity was flexion 38°, adduction 10°, no apparent atrophy and no shortening. Put her in bed with extension and in one week the deformity was gone.

Phelps' long-extension lateral traction splint was adjusted. Two-inch cork sole on the well leg. The case ran a perfect course and in two years was absolutely well, with no deformity or change of any kind. Motion perfect.

Case 2.—Little boy, seven years old. Had been treated at another hospital for nine months by badly applied plaster of Paris. Decided tubercular history and was due to a fall down stairs. When he came to me he was wearing a badly made plaster of Paris spiker bandage. On removing the plaster I found the following deformity:

Flexion 45°, adduction 7½°, shortening one inch. Marked atrophy. Joint very sensitive. Was put to bed with extension and lateral traction. In four weeks the leg was straight and sensitiveness about gone.

Phelps' splint was put on with the perineal bands in place of the ring.

In two years and six months he was discharged cured with three-fourths of an inch shortening and almost perfect motion.

No flexion or other deformity than the shortening.

During his treatment he was operated twice for abscess, which was opened and thoroughly cleaned out and a solution of iodoform

and glycerine, one dram to the ounce, was poured in and the wound tightly sutured; each time there was primary union.

Case 3.—Boy eighteen years old. Had had the disease for two years before coming to me. Had been at several of the local hospitals without receiving very much relief. Tubercular history.

Was very badly bent over sidewise when he came to me. Suffering much pain and walking with difficulty. Had never worn a brace, but had had several plaster casts put on.

Deformity was flexion 38°, adduction 30°. About 10° of motion outward rotation 15°, shortening one inch, marked atrophy.

Put to bed with fifteen pounds extension; in one month the leg was straight and a Phelps' splint with the ring was put on, and the high shoe and crutches.

At the end of the second year he had 25° of motion and no flexion or adduction and 10° of outward rotation. During the past year, as his business requires his being on his feet most of the day, he is still wearing a convalescent splint, and going without his crutches.

(NOTE.—The main feature of this case is that he has no flexion or adduction, and that motion has more than doubled under perfect rest.)

Case 4.—Little boy, six years old. History negative. Was probably the result of scarlatina.

Had been going lame for one year before coming to me.

Had been treated for rheumatism by family physician for some months.

Deformity was flexion 10° and adduction 10°, with slight rotation. Joint sensitive and child very nervous. Good motion.

Was put to bed with extension and in two weeks the deformity had disappeared.

Phelps' splint was put on with high shoe and crutches and is still worn. The case will soon be well with every indication of a perfect result. About six months ago a fall down stairs, striking the crest of the ilium on the lame side, caused a local abscess, which was a long time healing, after evacuation a large amount of pus formed and the granulating process was very slow.

Case 5.—Boy, seven years old. Had been treated by a surgeon in Indianapolis and had been aspirated about a year before I saw him.

He was wearing a Taylor brace with a high shoe and crutches. He had 20° of flexion and the joint was quite sensitive. I put him to bed and in ten days the flexion had disappeared by using extension.

Since then he has been wearing a Phelps' splint with the perineal bands and is on the high road to a perfect recovery.

1732 Massachusetts Avenue.

Discussion.

G. W. Roberts, M.D.: There is no use of throwing bouquets at the doctor for reading his paper, as I think we all appreciate that it is thoroughly up-to-date and very commendable. I do not know where to start, and I fear won't know where to stop, for I get thoroughly interested in the discussion of hip-joint disease. I have been using Phelps' method of treatment of hip-joint disease for about eight years, and that is the only method to-day in my opinion which can stand up in an argument before men who are familiar with the method. You have probably seen more or less of the discussions that have taken place between Dr. Schaeffer and others of his school on one side, and Dr. Phelps on the other. As the writer of the paper has said of himself, I have watched the cases; I have seen them hundreds of times. I do not know how many cases I have treated myself, but I know that in the Laura Franklin Free Hospital for Children almost all our work is orthopedic surgery, and with the three men there the work is divided practically evenly; two of us are carrying out the Phelps' method, and the other gentleman is carrying out another method of treatment—the method which is referred to is the Taylor method. I am sure that from what I have seen of the cases the results of the Phelps' method are immeasurably superior to the other. The history is that if they are put to bed in the proper manner that deformity due to spasm of the muscles disappears within from two to six weeks. Then, the fitting of the splint is a matter requiring a most excellent instrument-maker—not so much the surgeon as the instrument-maker. When the splint is applied, the cases go on to recovery, and one of the last things in the world, after applying the splint, is to have an abscess develop. The cases usually get well without limitation of motion, and shortening should not increase after the apparatus is applied. I thoroughly believe in the combination of the two great principles in the treatment of all tubercular joint diseases—fixation and extension. Unfortunately with some of our joints it is difficult or impossible to apply extension; the hip is not one; but extension applied without fixation is very imperfect. The results show, from Records of the American Orthopedic Association, that fixation without extension is not as favorable as Phelps has produced by his method. I am very much pleased to see in this bureau that the latest and most efficient method of treatment of hip-joint disease is advocated, and this is an important matter. You can see all over these United States cases of terrible deformity, which nowadays can be avoided.

Ralph Jenkins, M.D.: I have nothing more to say, except to emphasize what I have said. If you are going to get good results, you will have to *fix* your joint with some scientific apparatus. Hold

your joint still and put on a proper uniform extension to prevent abscesses and deformity as much as possible.

CHAIRMAN W. B. VAN LENNEP, M.D.: In Philadelphia, in our dispensaries, we simplify the same principles laid down by Dr. Jenkins, by means of the Thomas splint, cork sole, crutches and lead sole; Thomas splint for fixation, lead soles for extension and cork soles on the other side. That is the way we treat our ambulant cases in the dispensary.

G. W. ROBERTS, M.D.: No lateral extension?

CHAIRMAN: No, sir.

RALPH JENKINS, M.D.: Extension with your strips and plaster is more uniform.

Aseptic Wound Fever.

By Charles Adams, M.D.

Aseptic wound fever is known also as surgical, fermentation, or benign traumatic fever.

While a large proportion of subcutaneous injuries and aseptic wounds run an afebrile course during the process of repair, there are still many in which a temporary fever occurs, known as aseptic wound fever. This has been ascribed to the removal from the site of injury, by absorption, oxidation, or metabolism of the particles of tissue which have been devitalized by the injury and have undergone aseptic necrosis. This fever follows quickly, within twelve to thirty-six hours, after the injury, and subsides by lysis. There are no symptoms save the rise of temperature and pulse, and evidence of infection is absent.

For many years this temporary febrile condition has been accounted for by various theories, that of Von Bergmann, who believed it to be due to a fermentation in the wound, of fibrinous substance, having perhaps the greatest number of supporters. We purpose in this paper to present the views of some of the leading authorities upon this subject, and further to call attention to some comparatively recent work which seems to have received less attention than it merits. In regard to aseptic wound fever, Senn[1] says: "It would appear that the albuminoid substances which are in excess in the blood undergo oxidation by the action of a ferment, and that the chemical changes brought about in this manner occasion rise in temperature, while the products of oxidation are eliminated through the kidneys. Riedel found, in many cases of simple, subcutaneous fracture, albumen in the urine during the first three or four days, and the urine always contained brown masses, which he regarded as products of red blood-corpuscles.

"W. Müller found invariably after transfusion of blood, a considerable increase of urates in the urine. The occurrence of fever after the introduction of foreign aseptic substances into the circula-

tion can only be explained upon the supposition that they destroy red and white corpuscles in the blood, and that in this manner fibrin ferment, the cause of the fever, is generated."

Cheyne[2] remarks: "We may have during the first twenty-four hours the condition known as aseptic fever. In the first instance, in such cases, the temperature generally falls below normal as the result of the shock and loss of blood. Following this fall there is a reactionary rise of temperature, so that within twenty-four or thirty-six hours after the operation the temperature may have reached 100° or 101°. Where the wound is aseptic the temperature does not remain at this point, but immediately afterward falls again to normal, and during this period of slight elevation of temperature the patient does not suffer from any other symptoms of fever. This is what is spoken of as the aseptic temperature and the aseptic course of the wound is where there is no inflammation in it." J. C. Warren[3] defines aseptic fever as "a febrile disturbance which occurs in wound healing by first intention." Further he says: "The cause of this rise of temperature was at first not fully understood, but experiments upon animals have shown that the absorption of fibrin ferment is often accompanied by serious symptoms. Fibrin is formed by the union of two fibrin generators, fibrinogen and paraglobulin, with the coöperation of fibrin ferment. Fibrinogen is found in the blood-plasma, while the fibrin ferment and the paraglobulin are for the most part found in the white blood-corpuscles. If the fibrin ferment is introduced experimentally into the circulation, extensive coagulation of the blood will result, and the death of the animal speedily ensues. During the process of healing by first intention a certain amount of fibrin ferment is absorbed from the extravasated blood, and also other substances which are found in the exudation which accompanies the inflammatory process. In a large wound, healing by first intention, we find not only extravasated blood and exuded serum, but minute fragments of tissue which have been separated from the surface of the wound during the operation, and are subsequently disintegrated and absorbed. These materials when absorbed exert a pyrogenic action upon the system. Their close relationship to living substances, however, renders them but slightly injurious, and they produce in consequence only a mild type of fever." This quotation we have given at length, for while impressive it fails to explain. The same authority in another work[4] attributes aseptic fever to the liberation of fibrin ferment in the blood, citing experimental proof, and also states that "the same group of symptoms was also produced by

watery extracts of pulverized blood freed from its ferment, which was accounted for by assuming that ferment was developed in the blood. The rise of temperature produced by the injection of water was explained in the same way."

Park[5] writes in regard to aseptic fever: "When certain tissues break down there are released fermentative substances similar to fibrin ferment which have a pyrogenous action," and again (p. 118): "It is usually due to the retention of blood-clot, ligatures, etc., or tissues which have been ligated and whose stumps remain; in all of which instances there is some foreign body to be removed." "This means increased phagocytic activity, perhaps temporary leucocytosis, with active metamorphosis of clot and other material; of all of which the elevated temperature is an accompaniment and expression." Nancrede[6] says: "Constitutional reaction—'aseptic fever,' so-called—is proportioned to the extravasation and laceration; that is, the amount of fibrin ferment and nucleins available for absorption," further (p. 381), "The aseptic fever results from the absorption of fibrin ferment and nucleins, and is seen in subcutaneous fractures."

Rose and Carless[7] remark as follows: "Simple traumatic fever occurs after subcutaneous injuries, such as sprains, contusions, fractures, etc., and after aseptic operation wounds or compound injuries. It is thus found in conditions where micro-organisms are absent or, if present, are in such a state as to be practically impotent. The generally acknowledged cause is the absorption from the blood-clot or inflammatory exudation of some chemical substance (possibly the fibrin ferment) which has a pyrogenous effect upon the medullary centers."

Da Costa[8] says: "This fever is due to the absorption of pyrogenous material from the wound area, the material being obtained from clot, or inflammatory exudate, or from both." Da Costa gives also the views of Schnitzler and Ewald, which we present later. Before considering their theory we should note, what seems to be an important fact, reviewed at some length by Senn[1]; that is, that a similar febrile condition is produced by the injection into the circulatory system of various *aseptic inert* substances—thus, well water, physiological salt solution, finely pulverized charcoal, flour, pancreatin, pepsin and trypsin have been used in experiments with the result before mentioned. The firm belief that such disturbance of the system, in the absence of infection, must be due to fibrin ferment led to the assumption of the theory that the fibrin ferment formed in the circulating blood as a result of the introduction

of foreign substances. Out of this belief in the fibrin ferment came also von Bergmann's name for the condition, "fermentation fever." Observation having shown that a temporary fever is produced by the introduction into the circulation of aseptic inert substances as well as by the absorption of exudate, aseptic necrotic particles and the like, we must look for some constant factor to account for the phenomenon. Fibrin ferment has not been found in the blood in a sufficient number of cases to establish it as cause, therefore the fermentation theory must be given up. So long ago as May, 1896, at the Twenty-fifth Congress of German Surgeons, a paper was presented by Schnitzler and Ewald[7] that gives a new view of the causes of aseptic wound fever. They start with the proposition that it is generally acknowledged that beside the wound fever that is produced by bacterial products, there is also a wound fever which has no relation to bacterial products, pertaining frequently to subcutaneous injuries, and known as "aseptic wound fever." Regarding the objection made to the term "aseptic," as a negative term, by Gussenbauer, our authors point out that the term has been generally adopted as distinguishing the condition in question from fever arising from septic infection. They insist that a diagnosis can be reached correctly only by the process of exclusion, indicating possible sources of error, as: the difficulty of securing practical asepsis of operation are—as, *absolute asepsis,* as shown by late investigators is not to be expected even under the complete sterilization methods now in vogue—the possibility of subcutaneous injuries being infected, by way of the circulation, from a distant suppurative focus—also the possibility of recrudescence of absolute pus-centers by subcutaneous trauma. We must keep in mind, also, the many possible causes which through indirect connection with an injury or operation wound might give rise to fever, *e. g.,* bronchitis, intestinal or other catarrh. They review the literature of the preceding twenty years, and give careful consideration to the theories put forth and to the experimental results obtained by various investigators during that period. Beginning with Koehler (Dorpat, 1877) and taking up successively the work of Edelberg, Bergmann and Angerer we find acceptance of the blood-ferment theory, and also by the two latter observers the statement that the fermentative process was set up in the circulating blood by schizomycetes of some sort or other, or, might originate from traumatic extravasations independently of the schizomycetes.

Hammerschlag (1890) was the first to show the inconstancy of the fibrin ferment as a pyrogenic factor. By an exact series of experiments he demonstrated that of nineteen patients with aseptic

wound fever only twelve had free fibrin ferment, and further showed the fallacy of the theories held previously by extending his experiments to fever-free individuals, and showing that in five cases examined free fibrin ferment existed in the blood of two of them. The same author advised the further investigation of the blood of patients having aseptic fever, and Schnitzler and Ewald began a series of investigations upon human subjects and animals, which resulted in establishing the fact that *free fibrin ferment in the circulating blood is not a necessary factor in the production of aseptic wound fever, and that the latter must not be considered as identical with the fibrin ferment intoxication.* Now, if infection and fibrin ferment may be set aside, the question may arise, is the fever due, as has been suggested, to pure nervous influence? This query is answered in the negative by the relatively late appearance of the rise of temperature, and its occasional persistence for some days. If now the fever be of neither a nervous nor an infective origin and follows a trauma, it must be due to changes in the traumatized tissues, and the question comes up as to what pyrogenous material can come from a laceration of the tissues. This brings into consideration the nucleins resulting from the breaking up of the cell elements and requiring absorption. Pekelharing (1892) states that nucleo-albumin is set free by the dying out of the blood-corpuscles. Lilienfeld (1895) showed that the leucocytes contained nucleohiston which decomposes into histon and leuconuclein. The subject of absorption of nucleohiston has received special investigation in modern times, and we shall call attention only to the most recent investigations. Hess and Schmoll show that special relations exist between the nucleins and the alloxuric bodies* of the urine, in the human subject solely in the uric acid.

*The alloxuric acids and bases in the body. To the definitely determined facts belong (1) that these substances when fed are generally converted into urea; (2) that some nucleins under proper chemical treatment break up as follows:

Nuclein.	Nuclenic acid	Phosphoric acid. Adenin. Guanin.
	Proteid.	Xanthin. Hypoxanthin.

(3) That these last-named substances have been obtained from no proteid other than nuclein. The idea that the alloxuric bodies in mammals were metabolic products of nuclein, the uric acid being derived from oxidation of the base, was especially emphasized by Horbaczewski (1891). His statement that uric acid and the bases are increased in the urine after feeding nucleins has been confirmed. The increase of alloxuric bodies in the urine in leucocythemia has long been known, and is now explained by the increased nuclein metabolism following the destruction of the white blood-corpuscles. —*Am. Text-Book of Physiology*, Philadelphia, 1896.

Brandenburg (1896) showed from his investigations that the increased breaking down of nuclein-holding material results in increase of the alloxuric bodies to an abnormal degree. Weintraud (1895) says that nuclein-holding material has, as a sequence, large formation and excretion of uric acid.

From the quantitative determination of the uric acid and the alloxuric bodies in the urine we are enabled to judge of the resorption of nuclein-holding material. On this basis, with the assistance of Kolisch, Schnitzler and Ewald made experiments upon rabbits, securing positive results in most cases. These experiments consisted of daily quantitative analyses of the urine before and after subcutaneous injuries, fractures of various bones and sterile tenotomies, produced under ether-narcosis. Analyses of the urine of patients who had undergone various subcutaneous operations gave positive results save in one case, wherein there were no local manifestations of injury. These operations were fractures and orthopedic infractions, resulting in an increase in the output of alloxuric material of thirty to one hundred and sixty per cent. within forty-eight hours after injury. It having been shown by Horbaczewski (1892) that liberation of nucleins was followed by an increase of leucocytes, sometimes as high as 100 per cent., the blood of patients was examined. There was found in every case marked increase of the leucocytes, as estimated by the Zeiss-Thoma apparatus. In some of these cases the number of leucocytes was increased 200 percentum. As regards the temperature, noted in these observations, it should be said that with the rabbits the record was given up on account of the large physiological range shown by these animals, but in the human subject it was proportionate to the coexistent disturbance of the blood. Having shown the regular occurrence of leucocytosis after aseptic injuries, Schnitzler and Ewald express the opinion that it is very *probable,* but impossible, in the face of the complicated phenomena under consideration, to say *positive,* that a part of the secreted alloxuric bodies is due to the breaking down of the leucocytes. They consider it, however, definitely established that very frequently, if not always, nucleins are furnished for resorption after subcutaneous or aseptic injuries. The *albumoses* were next considered and an analysis, by Kolisch, of an old hematoma showed what had already been known, *i. e.,* that a large quantity of albumoses existed in hematomata. One of the observed cases in which a large hematoma was present showed, with the higher fever, a very large proportion of alloxuric acid. We have to take into consideration, then, two agents, nuclein and the albumoses capable of producing fever

on resorption. The studies of Neumeister and Matthes throw light upon the action of the albumoses upon the animal organism. Neumeister found that large doses of deuto- as well as those of proto-albumin killed animals by hemorrhage from the mesenteric vessels. Among the effects observed also were hemorrhages into the free peritoneal cavity, intestinal hemorrhages and, further, hyperemia and hemorrhages into various organs. Matthes has also pointed out that the effect of the albumoses upon the organism is analogous to that of tuberculin, and that the injection of albuminoses, as well as of peptones, is capable of causing fever in the healthy organism. Further experiments made by producing albuminosis in tuberculized animals showed reaction at the tubercular centers. The fact that after trauma, accidental or operative, albumoses may be present in the circulation—the working of albumoses in tuberculous individuals, pointed out first by Matthes, and the reaction observed in tubercular centers in animals after aseptic subcutaneous injuries may, perhaps, account for the rise of temperature frequently observed in tuberculous individuals after slight aseptic injuries, fractures, etc. To Virchow we owe the observation that injections of tuberculin sometimes produced, with the reaction of tubercular centers, tissue changes about such centers, resulting in displacement and dissemination of tubercular masses. This will account, if we take into consideration, the similarity of action of albumose and tuberculin, for the miliary tuberculosis sometimes observed as following directly upon trauma. The injury in these cases may displace tubercular matter mechanically, but often recrudescence has occurred of centers far away from the seat of injury, supporting the theory of Klein that tuberculin injections affected not only the tubercular material itself, but also the infected tissue. The conclusions based by Schnitzler and Ewald upon their experiments and observations are: that the rise of temperature generally designated as aseptic wound fever is due to the resorption of certain substances from the traumatized locality; that the assumption, as previously taught, of fibrin ferment as the factor in the production of aseptic wound fever is incorrect, and that such febrile condition must be ascribed to the entrance into the circulation of nuclein or albumoses.

There is no reason to doubt the thoroughness of the observations or the correctness of the results published by Schnitzler and Ewald. The excessive post-operative elimination of uric acid and urea, with accompanying fever, are due to the nucleins and albumoses thrown into the circulation from the damaged area. The one constant factor noticed, leucocytosis, obtains also after the introduction of any

aseptic foreign substance, liquid or solid, into the circulation. This will account for the rise of temperature following such injection, and which subsides, in the absence of infection, with the elimination of the broken-up cells by the kidneys. The new theory gives us an additional argument in favor of the custom of all prudent surgeons; that is, the ante-operative care of the renal function. With the knowledge that the output of urea and uric acid will be increased by operative intervention we should be, more than ever before, careful to avoid overloading already damaged kidneys, to lessen the irritation to them by dilution of the urine, and to secure, if possible, before operation, the highest degree of eliminating power.

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Central Music Hall.

Lateral Curvature of the Spine.

By Sidney F. Wilcox, M.D.

The subject—"Lateral Curvature of the Spine"—while not arousing the most active interest on the part of the general profession, is one of great importance. It is like some other conditions in medical experience which are always with us, which are largely chronic in character and which do not present great scope for rapid development in the methods of cure.

It is a condition which is not fatal, not always deleterious to health, activity or development, but one which particularly offends the esthetic sense.

It is when a patient arrives at maturity and appreciates the fact that she is suffering from an incurable deformity, but one which has become so largely through neglect, that the keenness of the misfortune is felt.

Not all the cases of lateral curvature of the spine are curable. Many are not, but pronounced deformity may be prevented and many cases may be entirely cured.

Children are careless. They do not borrow trouble, and the fact that they are going to have crooked backs when they grow up makes very slight impression on their minds, or the thousand and one other things which they want to do gives excuse for not carrying out the treatment prescribed. Parents also are careless, often almost criminally so. They trust to the child to do as she is directed, and she uses her own discretion in the matter. There is no condition in medicine or surgery which requires more tact, force of will and persistence in its treatment than lateral curvature of the spine.

Lateral curvature may occur at any stage under twenty, but seldom later in life. It is most frequent between the ages of twelve and seventeen, and is much more common in girls than in boys. In fact, I have never had but two cases in boys in my private practise. Its causes may be divided into the static, which include any condition which has a tendency to change the plane of the pelvis from hori-

zontal, and the pathological, which comprise such causes as are pathological in character. In the first class are cases which arise from bad positions in standing or sitting; also anything which actually or practically shortens one leg, as bow-legs, or knock-knee, flat-foot, or any condition which lessens the development of one limb as compared with the other. In the second variety are cases where curvature results from any disease which may be followed by central changes in the spinal cord, such as cerebrospinal meningitis, poliomyelitis, the exanthemata causing unilateral muscular atrophy. Effusions into the chest, one-sided morbid growths, sacro-iliac disease and rachitis may be added as pathological causes. Then there are many cases in which the muscles are only slightly different on the two sides, conditions which may be congenital, perhaps, or possibly conditions which may be acquired through certain occupations, habits or exercises on the part of the patient. The changes which actually take place in the spine itself are always secondary, and are not due to any pathological change in its structure. The spinal column itself is not diseased, but is distorted as a result of the outside influences, which have already been mentioned. The changes in shape which take place are due to increased pressure on one side and diminution of pressure on the other. In lateral curvature we may have one, two or more curves which are the results of the attempt on the part of the patient to maintain an upright position. The curvature may also be accompanied by a twisting of the bodies of the vertebræ upon one another, and this is known as rotation and gives rise to certain distortion in the chest of which we will speak of later. As a result of the bending of the spinal column toward one side or the other the bodies of the vertebræ and the intervertebral cartilages change their form. They become wedge-shape with the apex of the wedge towards the concavity of the curve and the base towards the convexity. This is accounted for by the fact that on the side of the concavity there is increased pressure, which prevents the growth of the cartilage and bone, and which also probably induces a certain amount of absorption of bony and cartilaginous tissue. On the other hand the diminished pressure on the side of the convexity allows of increased growth on that side. The greatest amount of curvature in the spine does not occur in the portion of the spine which is visible from the outside, *namely*, the spinous processes, but the bodies of the vertebræ swing 'round much farther from the perpendicular than do the other portions of the column. As a result the ribs are carried upward on the side of the convexity, and are compressed on the side of the concavity. This also leads to a corresponding flatten-

ing of the chest on the side of the convexity and a protusion of the chest forward on the side of the concavity. As the ribs are carried backward on the convex side the point of the scapula is thrown out giving it a winglike appearance, and adding decidedly to the original deformity. As the spine swings away from the pelvis to one side it gives rise to the peculiar appearance which is known as large hip, that is, one hip is apparently much larger than the other, higher and more protuberent. This is an apparent condition, but not real, and is not due to any increase in the size of the hip, but rather to a sagging away of the spine to one side, making one hip more prominent. One shoulder is lower than the other on account of the deflection of the spine from the perpendicular and the low shoulder usually occurs on the side of the large hip.

Lateral curvature of the spine may exist without rotation, and on the other hand a certain amount of rotation may exist without any perceptible lateral deviation. Where the curvature alone exists it consists simply in the deviation of the spine to one side or the other, without any twisting of the column. Where rotation alone exists, It is evidenced by the projection of the scapula and some change in the form of the chest. Lateral curvature may be divided into the flexible and fixed varieties. By a flexible curve I mean where it is possible for the patient or the surgeon to completely straighten the spine without much effort. In the fixed curve the column is maintained rigidly in its deformed position, and this is due to contracture of certain muscles, which it is impossible to overcome by ordinary means. The degree of curvature may vary from a slight lateral deviation of the spine to one which will cause great deformity and shortening of the trunk. In the mild cases the patient may not suffer from any particular subjective symptoms, while in the severe cases from the great distortion of the chest walls the pressure may be so great upon vital organs that the patient may suffer from dyspnea and from severe pains which may be either constant or intermittent in character. The tendency of all cases of lateral curvature is to get worse, although it may be arrested in any portion of its course, spontaneously or by treatment. If the cause which originally induced the deformity is allowed to persist the distortion is gradually increased, but if there is a general improvement in the tone of the patient or if proper treatment is instituted, its progress may be arrested at any point. The question of a cure following treatment is one which must be approached guardedly, as so many things are to be taken into consideration in making a prognosis. In the first place the result of treatment is largely due to the patient or her

parents or guardian, for if they neglect to carry out the directions laid down by the surgeon, his efforts may be almost valueless. This should be thoroughly understood in the beginning and the children or parents should be made to appreciate their share of the responsibility. In girls, the first signs of curvature are usually discovered by the nurse or by the dressmaker, who notices that perhaps one shoulder is lower than its fellow, or that the one hip is higher than the other, or that there is a difficulty in fitting the dresses. They find that a dress which is cut symmetrically on being tried on has a tendency to go off to one side, or the skirt has to be lengthened down on one side in order to hang evenly all around. This leads to an investigation, and possibly to the calling in of the physician and the institution of the necessary treatment.

In the consideration of the treatment of a case of lateral curvature of the spine, there are many points which must be carefully thought over. In the first place, as to whether it originates from one of the causes which may come under the head of the static or pathological variety. Second, as to whether the curve is a flexible or fixed one. Upon the consideration of these points may depend entirely the question of the use or non-use of apparatus. Personally I use apparatus very much less than I did formerly, depending now more upon the performance of certain exercises and postures with forced breathing tend to force the spine into the correct position. I have almost entirely discarded the use of any form of jacket in the treatment of lateral curvature, believing that in most cases it tends rather to do harm than good. The pressure of the rigid jacket tends to atrophy of the muscles, which I think does more harm than the good which is gained by holding the spine during the time that the jacket is worn compensates for. It also prevents the development of the chest, and restricts the liberty of the patient to a great degree. I have used jackets made of plaster of Paris, felt, or sole leather, and have adopted certain methods of improving the shape of these jackets as rapidly as the patient could bear the increased pressure. But for the reasons already stated I have almost entirely discontinued their use reserving them only for such cases as cannot be benefited by other means or which require an apparatus of this sort for the purpose of giving the necessary support to relieve the pain, from which the patient may suffer in a bad case.

Of the forms of brace, of which there are many, I use now only two. One is the lever brace of Shaffer (Fig. 1) and the other is a more powerful brace which has been constructed by Mr. H. R. Kirsten (Fig. 2), and gradually improved upon within the past two or

three years. Nearly all the forms of braces which are advertised in the catalogues are inadequate, and many of them are absolutely harmful. Most of them when first applied may seem to give some support, but the tendency af all of them is to tilt to one side. In order to obviate this difficulty, the brace which I have mentioned is held in position by means of a strap which goes around the thigh, but the brace alone is not sufficient to cure the case. It is a help and tends to hold the patient in the correct position when she is not performing the exercises necessary for the correction of the deformity. It would be impossible in a paper of this scope to more than indicate the principles of the methods which I now employ.

FIG. 1.

Shaffer's lever brace.

Most surgeons have employed largely what we may call passive methods, which have a good effect in straightening the column by stretching it out, and these consist of the use of the double horizontal bar, the rings, the suspensory apparatus of Sayre, the loop to be used when the patient is lying down, and all the means which are employed simply for the purpose of stretching the contracted muscles, but from the studies which I have made during the treatment of a large number of cases I have come to the conclusion that the muscles which are weak must also have exercise which will develop their strength. For this purpose any motion or exercise by which the patient can voluntarily assist in diminishing the curva-

ture will have a good effect. When we think over the anatomical construction of the chest we realize how little pressure we can make upon the spine itself, how the bodies of the vertebræ have only small portions of a muscular structure attached to them. We also consider that the pressure laterally upon the spine can only be made by pushing upon the ribs, and that the joint between the ribs and the spine has flexibility. The muscle which acts most powerfully upon the chest is the diaphragm. There are also certain extrinsic muscles such as the scaleni and other of the upper chest muscles, all of which are used in inflating the lungs. In many people the diaphragm is very little used. A great proportion of women and girls have no knowl-

FIG. 2.

edge how to use this muscle in forced inspiration. If you ask them to fill the chest with air, they will give a little gasp and raise the upper portion of the chest by a sort of spasmodic action. But, if properly instructed how to use the diaphragm in breathing it is surprising to what an extent this large muscle can be developed. Now we can perceive that by developing this muscle as well as the muscles of the upper portion of the chest how much pressure can be made *from within outward* to force the deformed portion of the chest into a proper position. For instance, if the patient stands with the hands interlaced at the back of the neck and the elbows well back, the weight resting largely upon the balls of the feet, head well up and

the chin in, the chest is thrown upward and forward. If the patient is now instructed to take a full breath, it is surprising what an amount of an improvement may be obtained in the position of the spine. Now, suppose while the patient is still standing in this position we incline the body toward the side of the convexity. In other words, decreasing the convexity, and throwing the spine as far as possible toward the side of the concavity. This is done while the patient is breathing ordinarily, and will tend to restrict the action of the muscles on the convex side, but the pressure is entirely relieved upon the side of the concavity, giving opportunity for expansion by *pressure from within the chest.* Now instruct the patient to take a full breath in the manner already indicated. The result will be that there being no chance for expansion on the side of the convexity it must take place in the direction of the least resistance or toward the side of the concavity. This is a simple example, but its applications are almost without number. For instance, suppose the patient has a right curvature. Let her lie on the floor on her left side, supported by the left elbow in such a manner that the body is festooned, as we may say, between the shoulder and the hip. That is, as far as possible the concavity is changed into a convexity. Now instruct the patient to take a full breath and the result will be that the *temporary* concavity is still further increased by the pressure from within. Another example: Let the patient stand squarely on both feet. In the case of a right curve, let her stand with the right arm stretched out horizontally and with the left arm let her reach as high as possible. Then with the inflation of the chest the spine is still further straightened. All of these motions and many others have a most excellent effect in the cases under consideration. If they can be combined with instructions in singing or tone-production by a teacher who is sufficiently interested to cooperate with the surgeon much interest is added on the part of the patient. She is more likely to carry out the instructions on account of the pleasure which she derives in the development of the voice. I have been using this method in a number of cases during the last two years with excellent rsults. As an example of certain active motions on the part of the patient I will mention one. Suppose the patient has a right curvature. Let her lie down on the right side, the arm extended and the head resting upon it. Now instruct her to raise the waist as far as possible from the floor while keeping the shoulder and hip down. This has the effect of straightening the spine by active muscular effort on the part of the patient, and bringing into play certain muscles which have hitherto had little use.

These bare outlines give an indication of what has been in my hands a reasonably successfully method of treatment. Of course all the auxiliary methods which have been before employed, such as the use of weights, pulleys, dumb-bells, Indian clubs, rowing apparatus, riding a bicycle with tilted saddle, horseback exercise with the side saddle so arranged that the patient is obliged to straighten the spine to some degree in order to preserve the equilibrium, the use of electricity, massage, the correction of bad positions in sitting, lying or standing, the improvement of any constitutional dyscrasia or weakness, the correction of the habits of the child as to diet or exercise, must all be carefully attended to. Many of the girls who are victims of lateral curvature are enthusiastic students in school and in many cases from their own desire to excel in their studies or from mistaken desire on the part of their parents or teachers that excellence in scholarship is the principal thing in life, they are inclined to put their school work before everything else. In some cases it is exceedingly difficult to convince either the patients or their parents that these studies in which they excel are the worst things that the child can possibly do. Some children are exceedingly fond of music and through mistaken idea on the part of the parents they are induced to spend long hours in piano practise which should be devoted to physical training. There are also certain causes of lateral curvature which have been before hinted at, which should be carefully corrected. These are the ones which give rise to what we have mentioned as the static variety of curvature, for instance, anything which causes a deviation of the pelvic plane from its horizontal position. Every case of lateral curvature that presents itself to surgeons should be carefully examined, and the limbs should be inspected and measured to see if there is any difference actually or practically in their length. If the patient has flat-foot it should be corrected by means of proper apparatus. If there is knock-knee or bow-legs, these conditions should be overcome by the proper methods.

The Present Status of the Surgery of the Kidney and Ureter.

By William B. Van Lennep, A.M., M.D.

Within the lifetime of most of those present, and during the professional career of some of our "grave and reverend" *seniors,* there has taken place a revolution in surgery, unique as regards the past and probably never to be equaled in the future. Thanks to anesthesia and antisepsis in the broadest sense of the term, based as it has been on an increasingly precise pathology, one cavity, one organ, and one tissue after another has been invaded, until at the threshold of the Twentieth Century it would almost seem as if the modern surgeon, like the Macedonian of old, must needs vainly sigh for more worlds to conquer!

During the past few years no subject has excited a keener interest among surgeons than the operative intervention on the kidney and its outlet. When, thirty years ago, Simon removed the kidney for ureteral fistula, he also inaugurated and legitimized renal surgery. Operations on these organs had hitherto only been done by accident or mistake, and deliberate interference was prevented for more than a century by the interdiction of Hévin against incising the sound kidney. So, too, it was many years before Simon's "radical cure" was relegated to the past, and that only after the recent evolution of ureteral operations. The same is true of Martin's nephrectomy for movable kidney, a procedure undoubtedly based on Simon's pioneer operation, but fortunately soon superseded by Hahn's more rational nephrorrhaphy.

With the exception of a few scattered published operations, among which should be mentioned an abdominal nephrectomy for hydronephrosis by Betts of Philadelphia, and an occasional suggestive article, the literature of renal surgery was barren for the next decade, and it was not until 1880 that Morris performed the first successful nephrolithotomy. In contrast with these records, when I collected the literature of the surgery of the kidney and ureter for the past

eighteen months, the reference volumes constituted a very respectable medical library.

Of fully equal interest with the pathologic conditions amenable to treatment are the advances in the prerequisite diagnosis and the operative technique necessary to meet the different exigencies. Thus the vertical Simon incision is used by many operators, Kammerer having *doubled* it, so to speak, in order to examine "the other kidney," that bugbear in every renal operation. König's "cross-cut," with some of its modifications, as an addition to the above, gives very satisfactory access to the kidney, and, with the proper curve, enables one to reach the ureter as well. The oblique incision, attributed to Czerny, has probably met with more favor than any other; it can be enlarged into that of Israel for exploration of the ureter, or, better, made to follow a more direct line toward or to the groin for complete ureterectomy. Abbè and Mayo Robson have extended to the kidney the principle of McBurney's muscle-splitting method for reaching the appendix. Like the latter, it has the disadvantage that unexpectedly extensive lesions or abnormalities of position necessitate an undesirable enlargement of the wound. Anatomically the plan is ideal, but in the single case in which I have practised it, I was disappointed in the difficulty of access to the kidney—an unusually high location being possibly accountable for this, although it was the right kidney, and not adherent.

The experimental work on the ureter and its extension to the human subject constitute an enormous step forward, and have reduced very largely the necessity for nephrectomy and the persistence of fistula, by enabling this restored tube to drain and cure hydronephrotic, pyonephrotic and *leaking* kidneys. Thus we have reports of transplantation of the proximal end for vicious attachment of the ureter to the pelvis, or after the division of a valve as first practised by Trendelenburg, or of the distal end into the pelvis as in Küster's successful case of resection for stricture (uretero-neopyelostomy).

Furthermore, the divided ureter has on several occasions been transplanted into the bladder with gratifying success, much along the lines of Witzel's gastrostomy (uretero-cystoneostomy). This appears now to be the operation of election, having superseded the comparatively safe but uncertain vaginal, and the more rare rectal or urethral methods; it is easier of performance than union with the other ureter, and preferable to a double abdominal fistula to be subsequently closed by a bridge of skin.

Of equal interest are the experiments and operations to insert

the ureter into the bowel (rectum, colon, etc.): (1), the revival of rectal ureterostomy by an obliquity which will prevent the usual ascending infection; (2), by preserving a sphincter, as in Maydl's ingenious transplantation for the correction of vesical exstrophy; and (3), after the isolation of a loop of small intestine to serve as a new bladder.

Even more encouraging is the promise of ureteral plastic operations:

1. The incision of stricture and the suture of the resultant and other longitudinal wounds on the principle of the pyloroplasty of Heineke-Mikulicz, or the closure of similar wounds after folding the tube on itself; both devices aiming to prevent cicatricial stenosis.

2. Tranverse circular suture after complete division of the ureter, with or without support. By support is meant an inlying sound or catheter, which is removed after the suture is completed.

3. The oblique, end-to-end, uretero-ureteral anastomosis of Bouvée.

4. Invagination of the proximal into the distal portion, with or without splitting the ureter, and with or without support—the so-called "end-to-end" method.

5. Van Hook's lateral implantation.

By the more extended incisions, by the inguinal retroperitoneal route, and by sounding and catheterizing the ureter, this tube has been made accessible to exploration and operation throughout almost its whole extent. There still remains the deep pelvic portion, out of reach from the bladder, vagina or rectum, and hard to get at intraperitoneally, which may require a sacral operation—that of Kraske or some of its modifications—to give access to it.

We can, then, straighten out kinks, divide or excise strictures, remove calculi, incise valves, suture wounds, and, owing to its elasticity, implant either end of the ureter after section or shortening by loss of substance. In case such elasticity is insufficient, the bladder has been detached and carried backward or to one side, while the kidney has been drawn down and stitched to the iliac crest.

The ingenuity and skill which have evolved these operative advances have been shown in the study of diagnostic methods as well.

In the female, differentiation between the two kidneys has been rendered comparatively easy by Kelly's method of catheterizing the ureters, the logical outcome of Pawlik's indefatigable work and of the principle of Sims's and Trendelenburg's positions. By this means or its modifications, the ureters have been sounded as well, and the kidney pelvis washed out or drained.

In the male, the ureteral cystoscope has been so perfected by Nitze, Oberländer, Otis, Brenner, Caspar and others that through it the orifices can be seen and catheterized. The complicated character of the instruments, and the experience and constant practice necessary for their successful application, will always be a drawback to their general use. Besides, data are multiplying to show that ureteral catheterism is by no means without danger, infections being so common that many experienced men deprecate its use. It is true, though, that there are many instances of immunity from infection, and toleration of an inlying instrument, even as long as twenty-three days, for example. Both the electric cystoscope and Kelly's more simple method will always be of value in enabling one to see the discharge of pus or blood from one or the other ureter, and, as has been emphasized of late, to recognize in an ulceration about either orifice the presence of a descending tuberculosis from the corresponding kidney, or, in the edema and congestion of the opening, ureteritis or retained pus. Kelly has also extended the use of his cystoscope to the male, introducing the instrument, like the Bigelow straight evacuator or Grünfeld's long endoscope, with the patient on his back, and inspecting the bladder in the knee-chest position.

The necessity for obtaining separate urines or of assuring one's self of the presence and condition of the other kidney is so important that all manner of devices have been tried to obtain this information. Their very multiplicity shows their inefficiency. Thus, of the operative measures, there are lumbar and abdominal exploration of the supposedly well kidney; temporary ligature of the ureter through the loin or vagina; ureteral catheterization through a suprapubic, vaginal, or perineal cystotomy; and even a suture passed around one ureter from the vagina. Of the mechanical devices might be mentioned, ureteral compression through the abdominal wall or the rectum; by forceps, or by a rubber bag filled with mercury in the bladder, etc. Another class is represented by instruments intended to catch the urine as it emerges from one or the other or both ureters; that is to say, by single or double catheters or specula. A most excellent evolution of this line of thought is the instrument of Harris working on the *watershed* principle, the ridge dividing the bladder into two halves, each of which is drained by a suction-tube.

In a consideration of the subject of diagnosis, the Roentgen rays should not be omitted. The variability in the results of skiagraphy and fluoroscopy has been shown to be due to the difference in the composition of renal calculi; thus, the oxalate of limestone—that of advanced life—gives the best shadow, while the "infantile calcu-

lus," made up of urate of ammonium, and the uric acid stone of young adults, produce little or no effect upon the plate or screen. The deep position of the kidney, particularly in the muscular or corpulent, is a further drawback, and Fenwick has attempted to overcome this by using the fluoroscope on the organ after drawing it out of the wound. The difficulties in carrying out such a plan as a routine practise are too obvious to require mention; and, besides, nephrotomy has been shown to be equally safe and more satisfactory.

Turning to the kidney itself, marked progress has been made in defining the sphere of each operative procedure and in the recognition of conditions amenable to surgical treatment. While the field of interference has been much extended, yet the tendency as regards operative destruction of the kidney is becoming decidedly more conservative; partial resections, suture of renal wounds, nephrostomy, improved nephrotomy and operations on the pelvis having reduced the necessity for nephrectomy to a very great degree.

The operative technique has been improved by the practise of drawing the kidney into or out of the wound, permitting thorough palpation and precise manipulations. The unreliable needling has given place to a complete division of the parenchyma from one end to the other of the free border, hemorrhage being controlled by compressing the pedicle by the fingers or special forceps. The introduction of the finger will often suffice to stop the bleeding, while subsequent suture has been followed by primary union in the absence of infection. Thorough digital examination of every recess is thus made possible, with more working room and less danger of future leakage than when the pelvis is opened. Pouches in a distended kidney and pus-pockets can also be completely drained. I have in several instances found a stone by such an incision—one of considerable size, too—which it was impossible to feel in the intact kidney, even when it was drawn out of the wound. Operative steps on the pelvis or the neighboring portions of its outlet are facilitated by the same opening, supplemented at times by temporary incision at or nearer the lesion. The ureter also can be sounded with a long metallic probe or flushed with a colored fluid, such as methylene blue, to recognize its permeability.

Besides demonstrating that the ureter is patulous, flushing occasionally enables one to dislodge a stone, as I found in a case operated a year or two ago. The patient, a lad of about 18, had pain and tenderness in the loin and at a fixed point external to and a little below the umbilicus, and gave a history of intermittent attacks of renal colic. As has been pointed out by Guyon, the vesical end of the

ureter was exquisitely tender when palpated through the rectum; urinalysis showed blood and pus. The kidney was drawn out and incised from end to end; no stone could be found, but on introducing a probe into the ureter, it met with an obstruction a few inches down. The instrument could not be insinuated beyond this point, nor could the grating of a calculus be felt. Free and prolonged flushing through a small catheter dislodged a stone, after which the ureter became permeable. He made a rapid and complete recovery.

After nephrotomy, by suturing the divided halves to the external wound (nephrostomy), we have a valuable addition to the treatment of obstructive anuria, as the open kidney secretes more than a sutured one, even though ureteral drainage is reestablished, and the condition of the patient usually precludes the more time-consuming procedures on the pelvis or the ureter. Infection of the exposed renal tissue appears to be rare.

Apropos of the anuria of obstruction, which usually means that of calculus origin, it has been aptly said that an anuric is a patient living with one kidney. The second kidney may occasionally give out reflexly, but usually it has been previously diseased, and its excretion is suddenly arrested. Surgical intervention in such a condition is not only urgent, but must be carried out as rapidly as possible. Hence the operation of necessity is nephrotomy or nephrostomy, ureteral or even pelvic procedures being usually out of the question. Of course, incidental nephrolithotomy, or, if possible, an up or down "milking" of the calculus is a most desirable concomitant. As regards the organ to be attacked, the operative rule is to expose the one last presenting symptoms. Another form of anuria is that following accidental inclusion of the ureters in a ligature or suture during pelvic operations. There seems little doubt that such an occurrence is more common than is generally supposed, and the urinary stream is probably reestablished in these cases by absorption or loosening of the ligature, or the kidney becomes hydronephrotic. Usually such an obstruction causes symptoms resembling renal colic, followed by a tumor, but both of the ureters may be occluded in this manner and no severe subjective symptoms result. So, too, there are cases recorded in which both ureters have been ligated or kinked, with complete anuria up to a day and a half, release or anastomosis being followed by complete restoration of function. In view of such data, and the fact that anuries may live several days—one case, at least, living eleven days without a kidney—occlusion of the ureter gives ample time for its correction by the alert and observing surgeon.

Nephrostomy is also useful as a conservative operation in uronephrosis before the removal of inferior obstructions, and in pyonephrosis of septic origin for prolonged drainage, or as a preliminary to plastic ureteral work or nephrectomy. In tubercular pyonephrosis it has been advised only when the condition of the other kidney is unknown, or that of the patient precludes nephrectomy, as it appears that the later operation is just as dangerous when secondary as when primary; nephrectomy is contraindicated as well in the presence of intimate adhesions between the kidney and neighboring structures, notably the abdominal vessels. Attempts at excision under these circumstances have resulted fatally as a rule, although Weir reports a successful suture of the vena cava lacerated during the separation of such adhesions. My personal experience leads me to look upon nephrostomy in renal tuberculosis with more favor, as I have met with at least two cases of complete healing and apparent cure, after a fair time-limit, by confining myself to the milder procedure. Other similar results have been reported. Judging by analogy and recalling the teachings of many surgeons regarding tubercular joints, and particularly tubercular disease of the testicle and epididymis, such a conservatism would appear reasonable in the kidney. Morris has carried out the same line of thought in localized, tubercular, renal lesions, excising in a V-shaped piece or slicing off areas of grouped miliary tubercles, or incising and curetting—*erasing*, so to speak—similar foci in a more advanced stage. Such measures also appeal to us as tubercular lesions, are notably multiple, and sooner or later it is reasonable to suppose that the same process will call for intervention in the other kidney. As against this reasoning there are many surgeons who advocate the removal of the kidney in the presence of advanced and even of isolated tubercular manifestations. Their arguments are based upon excellent clinical observations. Thus, (1) nephrectomy would appear at least to retard the development of progress of tuberculosis in the other kidney, and it is claimed that even infiltrated perinephral tissue will disappear in consequence. (2) A tubercular ureter, when the patient's condition does not permit of the more extended operation necessary for its removal, may be left behind with a fair assurance that it will not produce a sinus, and that the process within it will become encapsulated or disappear by atrophy. (3) The diagnostic ulceration of the ureteral orifice already referred to, as well as other inferior lesions dependent upon a descending renal tuberculosis, have been found to improve or disappear after nephrectomy, or at least their trying subjective symptoms have done so—and most of such kidneys are not due to an ascending infec-

tion but produce descending dissemination. The key-note of success appears to be early recognition immediately followed by surgical intervention.

The much-dreaded fistula necessarily produced by nephrostomy must be treated according to good surgical principles. It may be of two varieties, purulent or urinary. In the former instance the pelvis has not been opened, or the kidney substance has been destroyed, and there is nothing to deal with but the everyday pus-pocket or a useless organ. In the latter, a rare sequela in the non-distended kidney, freshening and suture can be of no avail, as distal obstruction or dam, just such as we find after perineal section, must first be done away with. Hence, sounding, the inlying catheter, ureterolithotomy, or the correction of strictures, bends, valves, or vicious ureteral insertion are the curative measures.

The question of exploration of the kidney with negative result has been squarely met and freely discussed, and it would seem that in this field, at last, an apparently mistaken diagnosis may be condoned, or even redound to the patient's good. Morris, in his masterly Hunterian lectures, reports forty-four cases of exploration for supposed calculus in which no stone was found, although in two instances at least it was subsequently discovered that the foreign body had been overlooked. As a matter of fact, however, in the majority of instances other morbid conditions were present which had closely mimicked calculus. Such, for example, as tubercular foci, and no lesion more closely stimulates renal stone than kidney tuberculosis; appreciably movable, or Morris's "cinder-shifting" kidneys; abscesses, cysts, tumors, engorgement from intra- or extra-renal inflammatory products or from displacements, and ureteral obstruction from inflammation, malformation, pus or blood. Fortunately, in all these conditions operative correction has been fellowed by unmistakable relief. Among the outside sources of undoubted error which have been recently noted might be mentioned: appendicitis, gastric and duodenal ulcer, cholecystitis and gall-stone colic; intestinal tuberculosis, or malignant disease, or abscess; neighboring intestinal adhesions; aortic or celiac aneurism; spondylitis and its cold abscess; vesical or prostatic calculus, suppurative disease and tumors; or morbid conditions in the uterus or adnexa.

"Nesting stones" may cause no end of trouble until they have *bored* out for themselves a bed or pocket, when they may remain quiescent for years. Renal calculus is thus characterized by deceptive ameliorations and by its chronicity; its duration, before operative interference was undertaken, having been found to vary at the

Heidelberg clinic from two to twenty years. Nevertheless, as has been aptly said by Morris, a quiescent calculus, one known to be present, causing mild or transient symptoms, is a constant menace to the patient's life. The same is equally true of suspected calculus —suspected from an analysis of the urine or from the more variable and uncertain local or reflected pains and aches. These may be lumbar, around the abdomen or to the umbilicus in renal stone, and classically vesical, scrotal, femoral, etc., when the ureter is approached or entered. Then there is a legion of more indefinite pains—ovarian, uterine, gastric, hepatic, etc.—which have been referred to in connection with diagnostic difficulties, and which are readily comprehended when we recall the wide anastomoses of the renal nerve supply. Less clear, perhaps, is the causation of severe nervous phenomena and occasional high flights of temperature. In either class of cases, and in fact in any renal calculus, we should apply the same principles as in bladder stone, *viz.*, if suspected, hunt for it; if discovered, remove it at once by a procedure almost as safe to-day as modern lithotrity. Morris by early intervention was able to reduce his mortality from 17 per cent. to 3 per cent.

The importance of not waiting, before exploring, for a complete classical picture of renal calculus—pain, hematuria, pus, crystals, and temporary suppression—has been illustrated by a number of cases. Thus, Dickinson removed a large stone from the kidney when all the symptoms were vesical, but the bladder was perfectly healthy. Brook found enormous calculi in both kidneys when correcting a nephroptosis without symptoms suggesting stone. Weir operated on a patient suffering for two years with fixed lumbar pain, preceded by a long history of attacks of renal colic and the passage of gravel, whose urine, however, showed neither pus nor blood; the kidney contained 1 large and 40 smaller calculi.

Nephrotomy, or, more correctly, nephrolithotomy, is the operation of election in renal calculus. Unlike tuberculosis, this condition rarely calls for nephrectomy. Even in extensive calculous pyonephrosis, drainage is the first procedure, because, in the not infrequent presence of stone in the other kidney, nephrectomy before its removal is almost certainly fatal, but comparatively safe after this has been done. Several interesting reports have been made to illustrate this point, among them one of Kammerer's, in which a bladder stone was removed by epicystotomy, then nephrolithotomy was done on both kidneys, and finally the pyonephrotic organ was excised; Page reports a similar triple lithotomy.

The much talked of "crossed symptoms" of renal calculus, on

which Thornton based his combined lumbar and abdominal operation, have also received notice, Morris and Fenwick both insisting that the teaching is erroneous; and yet, in a case reported by Twyman, the pain of a ureteral calculus was "crossed," requiring an abdominal section to correctly locate the stone. The painful kidney is usually diseased, and should be explored if only one is examined; but as one-fifth of all calculous cases are double, the painless kidney may be packed full of quiescent stones, while the painful organ contains but a small movable one. Several instances of such a condition have been reported.

In this connection it is interesting to note the literature on "hematuria from an apparently normal kidney." It is, after all, a rehash of functional as against organic disease—theoretical conclusions, apparently well demonstrated in some instances—showing such bleeding to be hemophilic, angioneurotic, traumatic from over-exertion, or even malarial in origin. Yet, in the operated cases, a lesion was mostly demonstrated and a cure resulted; for example, Cheyne's case of movable kidney due to injury over thirteen years previously; Kammerer's, of hematuria and renal colic, the kidney being found apparently normal, but congested; McBurney's, in which nephrectomy was performed on account of dangerous anemia and the microscopic examination only showed hemorrhagic pyelitis; Rovsing's cases, (1) a kidney displaced downward, (2) twisted by tight lacing, and (3) pinched by the same cause, with congestion, thrombosis and gangrene in spots. Groslik's deductions, then, seem correct, when he advises that all cases of obscure renal hemorrhage be subjected to exploration, a procedure devoid of danger, often therapeutic in arresting hemorrhage, and still more frequently demonstrating obscure lesions that can be remedied.

It has been my good fortune to carry to a successful recovery a case not unlike those just mentioned. The patient had been the subject of hematuria, pure and simple, for years, until the resulting anemia threatened life. Cystoscopy was negative, except that blood was seen to come from the right ureter and the other kidney was found to be doing its work. Exploration showed the profoundest hydremia I have ever seen, and the lower two-thirds of the kidney enlarged and dark red, whether with blood or a new formation it was hard for me to decide. Partial resection was found impossible and nephrectomy was followed by a brilliant restoration to health, recovery being only retarded by a sinus from the silk ligatures on the pedicle. Professor P. Sharples Hall reports glandular adenoma, and the affected portions of the kidney and the pelvis full of blood.

The question of surgical intervention in renal neoplasms has received some encouragement, and in benign growths and cysts partial resections have been successfully practised. With the gloomy prospects and statistics given by such men as Sutton, Greig-Smith, Keith, Czerny and others, which I must confess have been borne out by my own experience, it would seem as if operations for malignant disease were rarely justifiable. Urinary or even subjective symptoms are unreliable or absent, and the recognition of a palpable tumor would seem to be as hopeless a prognostic sign as in one of the pylorus. Besides perineal infiltration, glandular involvement is a serious drawback to success, and the presence of the latter and a tumor growing behind the kidney has been said to be indicated by pressure-varicocele on the corresponding side. Furthermore, it has been shown (1) that such patients should not be operated when under four years of age; (2) that the increased life duration after the operation does not exceed eight months; (3) that the operative mortality amounts to nearly 40 per cent.; and (4) that the prospect of ultimate cure at all ages is scarcely one in thirty. Nevertheless, these sinister data have been contradicted in several instances; among others, Abbè reports a successful nephrectomy of a 7½-pound sarcomatous kidney in a 15-pound baby who was well five years later; Kynoch, the removal of a lemon-sized, renal adenosarcoma from a 16-months' child without recurrence after two years; while Kammerer excised a carcinoma weighing, with the kidney, 6 pounds, together with involved glands, the patient gaining 42 pounds in weight during the subsequent five months.

In the treatment of movable kidney, too, the pendulum seems to be on the return swing toward an intelligent conservatism. It has been demonstrated beyond a doubt that many mobile kidneys cause no trouble at all, and, again, that in spite of successful fixation, nephrorrhaphy does not always accomplish its object. On the other hand, a further study of the symptoms produced by such a kidney prove that it may simulate many other conditions. Thus, aside from the classical lumbar dragging, and the characteristic tumor in every fifth woman and in those who lace tightly or whose abdominal wall has become suddenly lax, we meet with a host of referred pains and a long train of symptoms in the gastro-intestinal tract, or in the female reproductive organs. More than once I have been called upon to fasten a mobile kidney to cure symptoms which oophorestomy or hysterectomy had not relieved; and the same statement, by the way, applies to renal calculus. Conversely, it is not until the relationship of cause and effect is demonstrated that we can ex-

pect relief to follow kidney fixation, as many have found to their chagrin and to the patient's sorrow.

Einhorn and others have done much to prove that movable kidney is often part of a general enteroptosis, the coincident neurasthenia and innumerable topoalgias of which are not benefited, but even aggravated, by operation. Dietetic and mechanical measures are here indicated, and usually prove curative. As has just been said, every fifth woman has a movable kidney, and in but one-fifth of these does the displacement produce symptoms. Reduce this number still further by excluding those that can be cured by general treatment of the causative enteroptosis, and it would appear that Israel is right when he deprecates the tendency toward indiscriminate nephropexy.

In this connection it is interesting to note that in nearly nine out of ten symptom-producing displaced kidneys on the right side, chronic appendicitis is a complication, while a left-sided wandering organ is free from it. I have again and again observed this coincidence or causative relationship which it has been claimed is due to pressure on the superior mesenteric vein. Furthermore, as I stated two years ago, a beginning hernia will often simulate a chronic appendicitis, the symptoms of which will disappear after the application of an appropriate truss. So, too, I have seen the same treatment help to correct the supposed results of a *palpable* kidney which was a part of a general enteroptosis. Some years ago Shimwell called attention to the increased length of the mesentery present in the subjects of hernia, and proposed to remedy this at least predisposing cause by plaiting or infolding it. It is, then, reasonable to suppose that a visceral sag should produce a like predisposition. I have noticed, besides this, a fulness in the lower abdominal wall of such patients in the absence of the usual causative, intra-abdominal or mural conditions. Still stronger proof is found in the relaxation of the inguinal rings, even in the absence of hernia, which will admit one finger with ease, and sometimes even two.

Among recent observations appear several instances of the supposedly rare, congenital, true floating kidney. The organ has been successfully attached by the abdominal route, or by separating the layers of the mesonephron. Cheyne records one case of a third movable kidney lying at the pelvic brim on the right side. I have found a loose kidney in this location, and one fast in the true pelvis, but never as a third organ.

The operative steps of nephropexy have excited considerable discussion. Of course, capsular sutures have given way to those passed

through the substance of the kidney, where they do no harm, but the material used has been a problem, catgut absorbing too quickly, while silk and silkworm-gut tear out of the organ or work out through sinuses; even silver wire has been a failure in my hands. Instead of this, Vulliet's suggestion of lassoing or harnessing the kidney to the last rib or back with the tendon of the longissimus dorsi has been successfully practised. Again, reasoning that sutures of any kind are only useful in holding the kidney in position until inflammatory adhesions fasten it definitely, a number of surgeons have followed Senn's plan of removing the fatty and scarifying the fibrous capsule, and suspending it by strips of gauze. By packing these loops and the cavity, the wound has to heal by granulation, gluing the kidney in place—the true *nephropexy* of the French—as against Hahn's *nephrorraphy*. I have practised combined suture and pack for years, only closing the wound when the necessary four-to-six weeks' confinement in bed, with the pelvis elevated, was out of the question.

A word concerning renal traumatisms and I am done. The tendency seems to be to treat kidney lacerations or rupture expectantly, in the absence of dangerous anemia, intraperitoneal extravasation, or tumor, and to save many kidneys or *remnants* hitherto sacrificed; for here, again, that bugbear, "the other kidney," comes to the front. My own results have been better with secondary than with primary intervention. I have made use for several years of the inlying clamp, recently suggested by Meyer, on the principle of Péan's vaginal hysterectomy, in "hurry-up" nephrectomies, or those in which isolation of the pedicle was difficult on account of clots. A recent fatality has led me to doubt the advisability of this plan, although the clamp may not have been to blame. A pulpified kidney was removed, together with an immense hematoma; the clamp was taken off and a secondary suture made. When, after healing, the patient got up for the first time, he suddenly died from an embolus.

In conclusion, let me say to my fellow-members of the Institute, as I have attempted to show in this address, renal surgery lays claim to a number of lesions hitherto treated expectantly but unsuccessfully, or necessarily fatal. It lies with the general practitioner to recognize these conditions and call upon his surgical colleague in time. When, nearly ten years ago, I made my bow to this association with the first paper on appendicitis, some of my fellow-surgeons took exception to my diagnoses and aggressive suggestions; quite recently, in Buffalo, some of my fellow-practitioners related experiences to show that the knife was unnecessary. One by one we

have been led by our first, second, or even third malignant case to realize the necessity for surgery; but, alas! *each* lesson to *each* practitioner costs a human life, and as I know, to my sorrow, at times the life of a beloved and admired colleague. The same is true of surgical conditions in the kidney or ureter, but with this difference, that here, instead of minutes and hours, we have days and weeks, possibly months and years. And yet even this grace is restricted when the results of early diagnosis and early operation remind us that "if it were done, then 'twere well it were done quickly."

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Terminal Nerves of the Sympathetic, and Their Troubles as a Factor in Pelvic Inflammation and Other Disorders of Women.

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The physiological world has long been deeply concerned about the two nervous systems, the cerebrospinal and sympathetic, and interest in the subject is increasing. Many problems in connection with the study still remain unsolved, and yet there is much knowledge upon the subject which is now well established. In a general analysis of our human organization no one will question that it possesses a conscious and an unconscious part. The conscious part is perpetually in evidence, sensing in manners peculiar to itself its surrounding panorama of other existences and conditions and directing the activities of the body so far as it can control them accordingly. No one questions the fact that the physical habitation of the conscious human being is the cerebrospinal system, which consists of the brain, spinal cord, and their afferent and efferent nerves. But there is also, as every one knows, an unconscious or subconscious part of us, whose earthly abiding place is unquestionably in the sympathetic system of nerves, which consists of ganglia of gray matter and of afferent and efferent nervous cords connected therewith.

Our conscious selves are more or less intelligent and rational, our unconscious selves are automatic and more or less mechanical in their activities. Between these two forms of us there is a very close relationship, whether viewed physically or physiologically. And yet, while they have much in common each has spheres of operation perfectly independent of the other. It is perfectly natural that the conscious part of us and its earthly home, the cerebrospinal system, should have monopolized the lion's share of attention and consideration in the deliberations of medical men, for by nature it is conspicuous and self-assertive, and how we feel, or sense ourselves to be, is easily taken to be synonymous with how we are. For in this world of signs appearances are perpetually parading themselves as realities.

But our unconscious part, whose physical lodging place is the sympathetic nerve, is, especially of late years, assuming its proper position of importance because we now realize how much it has to do with the formation of our physical history. The sympathetic nerve as a factor in health and disease is now beginning to receive scientific consideration in the etiology and treatment of all the various forms of deviations from health to which physical man is prone.

There is a book recently published by Dr. Byron Robinson of Chicago, upon the sympathetic nerve. The book is called "The Abdominal Brain and Automatic Visceral Ganglia." Permit me to quote from a page of this book a few sentences bearing upon the mutual relationships and functions of the two nervous systems. On page 8 Dr. Robinson states that "The cerebrospinal nerves together perform the animal functions which prove us to be feeling and thinking and willing beings." That is, the physical products of cerebrospinal activity are purely conscious products. We think, we feel, we decide, we will, and then we become. It is quite evident from this that all products of our conscious living not only require correction when they become unsatisfactory but that radical work involves education as well, for habits of thought and feeling can be corrected by education and by education only, here being unquestionably the legitimate field for suggestive therapeutics.

Immediately following the sentence quoted occurs the following paragraph: "The ganglionic system of nerves, with the abdominal brain as their central organ, performs the vital functions which are independent of mind and present to us the idea of life. The sympathetic system of nerves presides over the viscera—over secretion, nutrition, gestation, expulsion, respiration and circulation—over subconscious phenomena." In other words, growth and repair are all dominated by the sympathetic nerve. To a disturbed and inadequate supply of nerve force must all deviations from the health standard be attributed, and to this same power must all remedial measures for their effectiveness appeal.

As Dr. Robinson's position is merely that which is universally recognized by all prominent anatomists and physiologists it certainly behooves us as physical tinkers of this watch of time, the human body, to bear in mind the construction of its machinery, and in inaugurating curative measures have due respect to the waste and repair of the sympathetic nerve.

The existence of pelvic pathology in common with physical disorders of the general system wherever located implies there-

fore a deranged, depleted or otherwise disturbed sympathetic nerve force. Our work of physical adjustment and relief is consequently incomplete unless the sympathetic disturbances which were their first cause be sought for and corrected as far as possible.

With this fact in mind let us briefly consider the waste and repair of the sympathetic nerve. First the waste. Sympathetic nerve force is usually wasted or its rhythm disturbed in either one of three ways. First, by undue terminal nerve impingement; second, by excessive and unremitting demands upon the sympathetic nerve supply by the involuntary muscles; third, by impingement or undue pressure of the sympathetic nerve trunks themselves.

First: Undue terminal nerve impingement. In considering this point it is well to remember that the sympathetic nerve supplies an apparatus not by a single nerve-trunk but by a pencil of nerves proceeding from a common source, and that impingement of any one of the terminal nerve-fibers, by disorganizing the sympathetic harmony at the nerve-center, can throw into disordered operation any or all of the other fibers proceeding from the same source.

Gynecologists will be specially interested in the pencil of nerves which supply the pelvic organs of women. From the same nerve-centers plexuses of the sympathetic pass to the ovaries, to the Fallopian tubes, to the uterus, to the vagina, to the vulva, to the bladder, to the urethra, to the clitoris, and to the rectum, thus associating all these parts in close sympathetic relation.

Impingement of the terminal nerve-fibers which pass to the ovaries may take place in either of two ways; first, cicatricial contraction of roughened apertures occasioned by the discharge of the ovum through the tunic of the ovary. Most of the scars thus produced are harmless, but occasionally the margins of the wound do not heal symmetrically and the consequent impingement and strangulation of tissue ensues. It is not at all uncommon to encounter spots of hardened cicatricial tissue in one or more places upon one or both ovaries.

Second: The impingement of terminal nerve-fibers supplying the ovaries occurs when ovaries are embedded in inflammatory products. These inflammatory products are cicatricial formations and like other scars contract with increasing grip as the months and years go by. Atrophy of the involved ovary ensues, but so long as its terminal nerve-fibers are not completely destroyed their incarceration in the steadily tightening vise of cicatricial tissue is a prolific source of sympathetic nerve waste, although almost

universally overlooked and ignored. Ovarian tumors in themselves are not seriously detrimental to health, but cicatrix-entangled, and consequently pinched ovaries, are conditions of more serious import.

Sympathetic plexuses supplying the Fallopian tube may be disturbed in their functions by inflammatory adhesions between the fimbriæ at the other extremity of the tube. It is not uncommon to encounter tubes that have been entirely closed at their outer extremity by inflammatory processes, and impingement of terminal nerve-fibers of the sympathetic ensue as a consequence. Congestion and inflammation of the lining of the tube, and also pyosalpinx, frequently press unduly upon the nervous filaments distributed upon the surface of the membrane lining the tube. The uterine orifice of the Fallopian tube may become excoriated and the terminal nerve-fibers distributed to this point may be unduly squeezed by prolonged contraction of the muscular fibers which surround it.

Impingement of terminal nerve-fibers of the sympathetic supplying the lining of the uterus may be occasioned by clonic uterine contractions induced by corporeal endometritis and by intra-uterine and intramural fibroids. But the greatest nerve-center of the uterus, and the one most liable to injury, is the internal os, which is formed by circular fibers belonging to the body of the uterus. Flexions of the uterus have their bend at this point, and in this way impinge terminal fibers, and this being the narrowest point of the uterine cavity it suffers most in cases of endometritis, and is apt to escape the attention of the gynecologist because of its concealed position. But stenosis, partial or complete, of the internal os uteri is a common source of sympathetic nerve waste in women and more prolific of mischief than is credited to it.

The terminal nerve-fibers of the sympathetic plexuses supplying the cervix uteri are liable to suffer inpingement in two ways. First, by stenosis, and second, in cases of prolapsus uteri by pressure against the perineum.

Impingement of the vaginal nerves occurs most frequently at the two extremities of the vagina. In cases of vaginismus the nerves supplying the entire length of the vagina are involved. An excoriating leucorrhea confined to the upper part of the vagina is of frequent occurrence. The mucous membrane ultimately becomes denuded of its epithelial layer and the vaginal sulcus surrounding the cervix in the course of time becomes completely obliterated by the adhesions of the vagina to the outer surfaces of the cervix. The cervix no longer protrudes into the vagina, and upon

examination seems to entirely disappear. The adhesions of these surfaces, however, produce unremitting impingement of terminal nerve-fibers, and of course are depleting and mischievous. In the older text-books it is common to meet with descriptions of uterine conditions in elderly ladies in which the cervix is referred to as having been completely absorbed. The large majority of cases are undoubtedly those in which the upper part of the vagina has first become excoriated and afterwards adhered to the cervix, so that while the cervix in reality is of customary length it nevertheless seems to have disappeared from the vaginal canal. This condition is always harmful, and yet is seldom deemed worthy of mention by practical gynecologists.

Impingement of the terminal nerve-fibers of the sympathetic at the lower end of the vagina are of frequent occurrence in young women and girls, being due to muscular contractions at the sphincter vaginæ induced by irritable conditions of the hymen.

Terminal nerve-fibers distributed to the lining of the bladder are seldom disturbed except in cases of calculi or of cystitis, and when tumors press upon the bladder.

Terminal nerve-fibers of the sympathetic supplying the mucous membrane lining the female urethra seldom suffer impingement except at its extremities. Excoriations of the os vesicæ serve to induce it at the upper end of the urethra by reason of the undue tension of the sphincter vesicæ. Carunculæ and hypertrophied papillary and glandular growths about the orifice of the urethra frequently occasion terminal nerve impingement at the lower opening of the urethra.

The plexuses of sympathetic nerve-fibers supplying the clitoris and its hood are more numerous in proportion to the size of the organ than those supplying any other organ in the body. Adhesion of the hood of the clitoris to the clitoris induces impingement of the terminal nerve-fibers of the sympathetic supplying this part because the clitoris is constructed of erectile tissue, and as it fluctuates in size it pulls and presses upon the adhesions spasmodically and irregularly. And as such adhesions tend to undue sensitiveness and excitability of the part they are exceedingly prone to seriously disturb a normal sexual rhythm and are a prolific source of over-sensitiveness and its attendant train of unhappy consequences in all the other parts of the female sexual apparatus, and also of the rectum.

The terminal nerve-fibers of the rectum suffer impingement mostly in either hyperesthetic or anesthetic conditions of its mucous

lining. In hyperesthetic conditions the entire mucous membrane is unduly pinched by excessive and continuous squeezing of its muscular coat, which is excited to overactivity as a result of the nerves supplying the mucous lining; and in an anesthetic condition of these nerves their terminals are more or less constantly impinged upon by the presence of large masses of fecal matter which the insensibility of the mucous lining of the rectum permits to be unduly retained. Prolapsed ovaries, fibroids growing from the posterior surface of the uterus, and pressure from the fundus of the uterus itself in conditions of retroflexion and retroversion also compress the sympathetic terminals of the rectum by holding the walls of this tube in too snug a coaptation.

The terminal nerve-fibers supplying the lowest inch of the rectum suffer impingement more frequently than those distributed to its upper part. This is because, first, it is the most dependent part of the rectum; second, it is the narrowest, most constricted part; third, in consequence of the first and second reasons it is the part most prone to congestion, to laceration, to excoriation, to bruises, to pathological products of various kinds; and fourth and last, because the circular band of involuntary muscular fibers surrounding this part are more numerous and more powerful than in any other part of the rectum and consequently are capable of a severer impingement of the sympathetic terminals distributed to the mucous membrane lining it when, responsive to the automatic stimulus of the sympathetic nerve which supplies them as well as their lining, they are held in clonic spasm.

Such in brief are the various ways in which sympathetic nerve force can be wasted or disturbed by undue impingement of its terminal nerve-fibers.

The second method of sympathetic nerve waste or disturbance is by excessive and unremitting demands upon the sympathetic nerve-supply to involuntary muscles. The sympathetic nervous system, like the cerebrospinal, has its afferent and efferent nerves. Its afferent nerves, which correspond to the sensory fibers of the cerebrospinal system, are those which are employed for surface distribution, and these we have just considered. They merely convey messages from periphery to center. The efferent nerves of the sympathetic correspond to the motor-nerves of the cerebrospinal, and are distributed to the involuntary muscles. There is a coat of involuntary muscular fibers surrounding the Fallopian tubes, the uterus is constructed of involuntary muscular fibers, the vagina is surrounded by a coat of involuntary muscular fibers, the bladder

and urethra are similarly provided, the blood-vessels and lymphatics are wrapped by a coat of involuntary muscular fibers, as is also the rectum. It costs steam to run an engine, it costs electric force to telephone or telegraph, or to heat or to light, and it takes nervous centers to induce muscular action.

The voluntary muscles are supplied by the cerebrospinal system, and their constant activity during waking hours is so exhausting as to demand that a third of our time shall be spent in sleep for recuperative purposes. The action of the involuntary muscles, however, is presided over not by the cerebrospinal but by the sympathetic nerve. And so essential to our existence is its continuous and rhythmic operation that this system is never permitted to be off duty from the beginning of life to its close. For legitimate muscular activity on the part of the involuntary muscular fibers the sympathetic nerve force is ample for a century run. But if in response to afferent disturbance the efferent or draining forces are unduly taxed sympathetic exhaustion supervenes, and if continued is followed by its long train of first congestion, then disturbed function and imperfect renewal of bodily tissues, then retarded removal of débris, and finally the establishment of every possible variety of pathology, after which comes premature bodily dissolution.

The operation of the sympathetic nerve is rhythmic and automatic. Activity of afferent nerves involves activity of efferent nerves. That is, a disturbance of any surface supplied by sympathetic nerve-fibers invariably induces muscular activity of the involuntary type at some associated part. If the irritation be transitory in its nature the stimulated muscular activity will be likewise transitory in its operation. But if it be of a chronic nature the muscular activity will be correspondingly prolonged. In this way does terminal nerve irritation induce sympathetic exhaustion, not only by impingement but also by unremitting demands upon the sympathetic nerve supply to the involved muscles.

The third way in which sympathetic nerve force is wasted, as mentioned, is by impingement or undue pressure of the sympathetic nerve trunks themselves. Such impingement may be occasioned by misplaced organs, by tumors, or by deep lacerations and subsequent cicatricial formations involving nerve-trunks in their grasp. Retroflexion and retroversion of the uterus injure not only the terminal nerve-fibers of the sympathetic which are distributed to the lining of the rectum but also the large bundles of plexuses surrounding the rectum itself and lying between the rectum and the sacrum. The same is true when enlarged prolapsed ovaries, fibroid

growths, accumulations of pus or serous fluid are lodged in Douglas cul-de-sac. In prolapsus of the rectum, in cystocele, in rectocele, and in procidentia the sympathetic exhaustion which ensues is due to the excessive tension upon the nerve-trunks of the sympathetic.

In these various ways is the strength of the gentler sex unobtrusively, because unconsciously, sapped. The sympathetic never speaks to womankind except in the language of function, and appeals to her consciousness only as disturbed functions or their pathological sequences obtrude themselves upon the attention of her cerebrospinal organization. But if the self-consciousness of a woman is not appealed to her vital force can be spent unobtrusively until death ensues as a consequence and the real cause of her premature departure may completely escape detection. So much for the sympathetic nerve waste.

The repair of the sympathetic nerve needs but little attention if its waste be stopped. Local feeding of accessible parts governed by sympathetic nerves, electricity, massage, internal and external medication are all of remedial value, and above all are regular and helpful automatic habits essential to sympathetic vigor. When women come to us for medical advice they have become aware of some form of physical or mental derangement and they are seeking relief from some conscious distress. But in reality every trouble which they suffer, whatever form their complaint may take on, has its real beginning in a silent, unconscious, yet nevertheless actual distress and embarrassment of the sympathetic nerve. We must remember that the sympathetic nerve force controls the circulation, nutrition, function and repair of each and all of the organs of the female pelvis, and these have no other reliable and continuous source of nerve-supply. When its rhythm and harmonious operations are undisturbed by undue impingement of its terminals or plexuses, or by exhaustion from exorbitant demands made by undue and prolonged tension of involuntary muscular fibers, there is sufficient vitality or reactive power to ward off disease and maintain health in any and all of the pelvic organs. But to embarrass or in any way disarrange the vital power which dominates the pelvic conditions of women is to inaugurate a series of pathological transformations which invariably have their beginnings in disturbed functions and congestions, and in due time passes on to inflammations, abscesses, tumors, cancers, and every other possible variety of pathological crystallization. Thus do the consuming fires of the female pelvis, whose ashes take on different shapes and are known to us by different names, which have been so ably considered by

the papers and discussions of the present meeting, have their incipiency in sympathetic nerve-waste. Let us by all means make women comfortable. But while we remove her tumors, evacuate her abscesses, allay her inflammations, and correct her displacements let us at the same time bear in mind that our pelvic work to be effective, complete, permanent, satisfactory, rational, must also include all possible considerations relating to the waste and repair of the sympathetic nerve.

Diagnostic Symptoms of Pelvic Inflammations.

By Wilson A. Smith, M.D.

In making the diagnosis of any affection two classes of symptoms are used, *i. e.*, the subjective and objective. The subjective symptoms are those which we gather from the patient as he or she relates the history of the case, and the objective ones are those which are observed by palpation, auscultation, measurement, etc.

The subjective symptoms in pelvic inflammation are not clearly indicative of the derangement of any specific organ because these symptoms are common to each and every form of inflammation one finds in that locality. There is a single exception, and that is, that when the ovaries are the seat of inflammation there is a greater amount of nervousness than when the tubes, uterus or peritoneum are affected. Then another fact is that many of the patients have no idea at all of the anatomy of the part and frequently refer to the pains as being situated in the stomach when the lower border of the stomach, as all physicians know, does not reach as low as the umbilicus by two inches unless there is dilatation of that organ.

Pain.—Perhaps the first step towards making a correct diagnosis of pelvic inflammation is acquiring the ability to interpret the language of pain when located in the hypogastric region. It is one of those happy things we occasionally find in the practise of medicine, that the language of pain in this region is more easily interpreted than in any other portion of the body. That is, it means just what it says, a meaning not found anywhere else except in certain forms of neuralgia.

We have five distinct classes of pain in this region. They are: (1) Inflammatory pains; (2) intermittent pains; (3) more or less constant pain; (4) bearing-down pains, and (5) pains of hysteria.

Inflammatory pains are those which are characterized by heat and throbbing. Accompanying them is tenderness of the parts affected, increase of the body temperature, with a higher degree of temperature at the place attacked. Inflammatory pains are more or less constant, but when suddenly becoming sharp, accompanied

with collapse, rigors, pulseless at the wrist, indicate perforation. Marion Sims says: "They indicate inflammation of the uterus; of its peritoneal covering; or of some of the adjacent viscera or their coverings; and they are commonly the consequence of labor of abortion, of some disturbance of the menstrual function, or of operations about the generative organs." To these, as a cause, should be added specific infection. To a knowledge of these pains which have reference to inflammations of the generative organs of woman should be added the pain found in inflammation of the bladder, but as other symptoms are present belonging solely to the urinary tract when it is affected it is unnecessary to mention this as no one would be misled into suspecting any other condition if inflammation of the bladder be present as the primary disease.

You will notice that I have not mentioned pains found in the groins or back. These were omitted for the reason that pain in the groin indicates inflammation of one or both of the ovaries and the diagnosis of this condition is treated of in the paper. Pain is the accompaniment of so many conditions of derangement of the sexual organs that it may properly be mentioned as a concomitant of every diseased condition of the uterus and appendages.

In examining the patient for the first time I place her in the dorsal position for the reason that before the vaginal examination is made palpation of the abdomen is made. In order that a general outline of the condition may be pictured in the mind and often in this some of the inflammatory disease can be eliminated because of the absence of tender points which should be present in inflammation of certain organs.

The examining of a patient by palpation should be done systematically. The physician should begin either at the lower border of the rib and pass down or else he should commence at the lowest portion of the abdomen and go up, noting each part where there is any indication of sensitiveness to pressure. Practically all the anatomy one needs to know is found in that portion which we dominate the hypogastric, for in that region is found all the sexual organs of woman. After the examination has been completed from above downwards, or vice versa, palpation across the abdomen from left to right, or right to left, depending more upon which side of the patient one is standing, should be made. As a rule commence the palpation from the opposite side of the examiner. This gives the best opportunity to pass the contents under the palmar surface of the hands and conveys to the mind a better idea of the outlines of the contents of the pelvic cavity.

In speaking of examinations for the purpose of making a specific diagnosis of inflammation of any particular part of the pelvic cavity I shall present the subject in the order in which these troubles have occurred most frequently in my own practise. Of course, it is thoroughly understood, I hope, that the history of the case has been complete before manipulations of any kind are commenced, for while I have not found all diseases of an inflammatory character located in the pelvis result from gonorrhea, I regret to say that a majority, and a large majority at that, result from specific infection. It is in this history that some word may be spoken which will place the physician in possession of the key that will unlock the pathology present in any given case.

The Ovaries.—In diseases of the ovaries we have congestion and acute and chronic inflammation.

Congestion.—Congestion does not properly belong to this paper, but it is necessary to understand it so as to eliminate it when examining a patient for inflammation of these organs. It is treated by different authors under different heads, thus one speaks of it as a hyperemia, another as irritability, another as neuralgia, but I prefer the easily understood term of congestion. The symptoms are indefinite but are generally found among those who are nervous. Pains occurring midway between the menstrual flux are found in those women who suffer from congestion of the ovary. Manual examination gives negative results unless the ovary can be located, when it will be found slightly tender on pressure. Sometimes the bladder takes on a sympathetic irritability causing frequent desire to urinate.

Acute Ovaritis.—The diagnosis of acute ovaritis is much more easily made out than congestion because of its history as it results from some infection. We now know from pathologists that acute inflammation of the ovaries is the result of either puerpural sepsis or gonorrhea.

This germ may be and generally is carried through the uterus and tubes when it attacks the ovary, but if it passes through any other channel there is a history of previous involvement of other pelvic organs and the ovaritis is simply a result of the earlier condition. In ovaritis there is pain and tenderness which is more circumscribed than in pelvic peritonitis, and the nervous symptoms accompanying affection of the ovaries are present, thus helping to settle the question of diagnosis. Then we have in ovaritis, I am speaking of the acute form, more nausea and vomiting than where the peritoneum is affected. An increase of the temperature of the

whole body is present, but there is greater local heat. The termination of acute ovaritis is generally by abscess unless it is promptly checked.

Chronic Ovaritis.—Chronic inflammation of the ovary may exist from the beginning as a chronic inflammation or it may result from one or the other of the derangements just mentioned. We have this differential point between acute and chronic inflammation: In the chronic form there is no increase of the temperature of the body. There is pain in the groin which is worse two or three days preceding the menstrual flow, and it is often noted that these patients are better during the flow than at any other time. It is in chronic inflammations that we meet so many reflex symptoms such as headache, disturbance of digestion, of the circulation, hysteria, etc. The diagnosis of inflammation of the ovaries, either of the acute or chronic variety, is exceedingly difficult, particularly, where there is a coexisting peritonitis, but the exquisite tenderness of the organ, the *mobility* of the uterus and the shape of the organ fixes the diagnosis. A point worth remembering is this: If the inflamed ovary is touched and pressed upon it will be very tender and give rise to pain *shooting upwards towards the mammary glands.*

Salpingitis.—Inflammation of the oviduct is rarely, if ever, an idiopathic condition but results usually from inflammatory condition of the genital organs elsewhere. It is difficult to diagnose for the reason that inflammation of the tubes rapidly extends to the peritoneum and the resulting peritonitis masks the original inflammation of the organ. It is caused by gonococci passing into it, when if there is any discharge it is thick and purulent, although there is likely to be absence of discharge at time of the greatest activity of the infection. When it becomes less, the fever decreases and the discharge appears. Its diagnosis is made from local tenderness, great pain precedes, generally by chill and fever. When salpingitis is the result of puerpural causes we have a history of puerpural trouble which gives the key.

Chronic Salpingitis.—This form of inflammation is more frequently met with than is the acute variety and as a rule never ceases without aid. The diagnostic symptoms are so clearly stated by Bushong that I have taken the liberty to use his words. He says:

"There is pain, frequently neuralgic, and may be intermittent in its severity. Usually located in inguinal region at side of uterus. Pain generally worse at the menstrual period. Menorrhagia almost always found, irregularity of menstrual flow a common occurrence.

Leucorrhea always present. The tube is large and tender on pressure and is usually lower in the pelvis than its normal position."

Perisalpingitis.—When inflammation of the tubes exist at the time that the peritoneum is affected it is impossible to separate them by any means known at the present time. It is seldom that either condition exists any length of time without the invasion of the other. The symptoms are the same as in salpingitis.

Pyosalpinx.—The symptoms of pyosalpinx are the same as those of salpingitis with the exception of the leucorrhea. As a rule but one tube is affected and the condition results from the closing of the tube at both ends. In making palpation if there is not too much resistance by the patient against relaxing the abdominal walls a round body or mass may be discovered and by careful manipulation a crease between the uterus and the tumor made out. Should one be inclined to believe the fundus of the uterus displaced—this can be proved or disproved by the introduction of a sound which will show where the fundus is located.

Pelvic Peritonitis and Pelvic Cellulitis.—These should be studied together for it is a difficult matter to differentiate pelvic peritonitis from pelvic cellulitis unless it be remembered that cellulitis occurs more frequently after labor or operations on the pelvic organs. Heywood Smith says:

"In cellulitis tumor is reached easily; tends to suppurate; tenderness more often on one side; pain continuous, countenance not anxious (as in pelvic peritonitis), nausea not very severe, uterus not entirely fixed. In pelvic peritonitis tumor not always felt, and if so high; suppuration rarer, tenderness over whole hypogastrium; pain severe and paroxysmal, countenance very anxious, uterus entirely fixed."

Both have rigors, both have fever and pain, although in cellulitis fever may be very slight or even absent. Cellulitis has painful micturition and defecation, two symptoms that are not present in pelvic peritonitis.

In pelvic peritonitis there is tenderness on deep pressure over the tubes causing sometimes very sharp pain; pulse the same as in peritoneal inflammations in either sex, small and wiry. In pelvic cellulitis there is a puffiness observed as a rule upon one side only hypersensitive and by conjoined manipulation the swelling can be made out. Rectal examination aids in throwing light upon the question by the pain which it produces and the hyperpyrexia present in the rectum. One point worth noting as to the cause: Where the condition is the result of labor or abortion the discharge is

streaked with blood; when it occurs as a sequela of gonorrhea there is absence of blood.

I have not presented the symptoms of endometritis, inflammation of the membrane lining the uterus nor of endocervicitis for the reason that every physician is acquainted with the symptoms present in these two varieties and my paper is already too long.

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Non-Specific and Specific Uterine and Vaginal Discharges as a Cause of Pelvic Inflammation.

By A. C. Cowperthwaite, M.D.

It is a well-known fact that specific uterine and vaginal discharges cause pelvic inflammation and it is the commonly accepted opinion that they are a very frequent cause, but on the other hand the causative relations of non-specific discharges in such conditoins are largely overlooked. Doubtless it is true that the latter operate much less frequently than the former, but at the same time it is probably equaly true that, by many at least, the causative influences of the former are greatly overestimated.

The theory that a man who has suffered with gonorrhea at some remote period still retains the disease in a latent form and entirely without subjective or objective evidences of its presence, and that he may transmit the same to the wife begetting in her a form of latent gonorrhea which for a time, long or short, develops no symptoms, but later becomes the cause of various pelvic inflammations, is not altogether demonstrable. Such a theory had never been conceived until it was brought out in a paper by Noeggerath in 1873, in which he used the following language: "I believe that I do not go too far when I assert that of every one hundred wives who marry husbands who have previously had gonorrhea, scarcely ten remain healthy; the rest suffer from it, or some other of the diseases which it is the task of this paper to describe. And of the ten that are spared we can positively affirm that in some of them, through accidental cause, the hidden mischief will sooner or later develop."

These startling statements found a lodgment in the belief of many largely for the reason that they afforded a loophole of escape in the explanation of the cause of many pelvic disorders and rendered a diagnosis easy where it had before been shrouded in doubt. As a result we find the theory has given rise to the routine habit in many of ascribing gonorrhea as a cause for most pelvic inflammations. A habit which is often as unjust as it is unscientific.

In such cases the gonococcus as well as the clinical symptoms of gonorrhea are wanting and no positive evidence of gonorrheal infection is to be obtained. The diagnosis is therefore purely theoretical and not based upon any facts further than the accidental discovery that many years previous the husband had gonorrhea.

A young woman apparently in perfect health marries, after a time she begins to suffer with pelvic disturbances, leucorrhea and dysmenorrhea and possibly is sterile. Later on she may develop a pyosalpinx or ovarian abscess. It is found that the husband had gonorrhea in his youth and at once the whole cause of the woman's sufferings is attributed to specific infection. There are no evidences to prove the truth of such a theory. Many women suffer in precisely the same lines who have never had connection with a man who had previously had gonorrhea, and cases occur not infrequently in unmarried and continent women.

It is maintained that the gonococcus is possessed of great longevity and retains in a degree its virulence. That it, in fact, never dies but is an ever present nemesis capable of great harm. If such were true it is strange that microscopical investigations never discover the presence of these bacteria in such cases.

No one will deny the potency of recent cases of gonorrheal infection in the production of pelvic inflammations. Such cases are too frequently observed and are too readily demonstrated to admit of any question. But aside from these the question arises whether or not many cases of pelvic inflammation attributed to a latent gonorrhea are not really due to auto-infection through a non-specific uterine or vaginal discharge.

A recent case now under treatment will serve as an illustration. A woman aged 36 has been married 16 years. The mother of three children, the oldest 15, the youngest 10 years of age. Has always been exceptionally healthy and strong. After the birth of her youngest child she did not get up quite as well as usual and had some leucorrhea. The latter increased gradually but her general health did not suffer greatly and she did not consider it necessary to consult a physician. For the past two years the leucorrhea had been very profuse but the general health still remained unimpaired. The discharge was very irritating, in several instances producing a severe balanitis and urethritis in her husband which invariably disappeared in a day or two under simple antiseptic treatment. Six months ago I was called to treat her for what appeared to be an ordinary attack of rheumatism. The case soon developed signs of a septic inflammation of the lower arm and hand on the

left side. In searching for a cause of this septic condition I first obtained the history above given. The leucorrheal discharges were examined and found to contain staphylococci and strepticocci but no gonococci. The husband claimed to never have had gonorrhea and there was no doubt in my mind of the truth of his assertion. Local examination revealed an extensive granular inflammation of the endometrium. The uterus was swollen and soft, the tubes inflamed and containing pus, the ovaries inflamed and there was present a general pelvic peritonitis.

I am convinced that in this case and many others I have seen that septic infection took place from an absorption of the non-specific discharge, and I am inclined to the opinion that in very many of the cases supposed to be due to gonorrheal infection the same has been true.

Sanger holds that only one-eighth of all pelvic inflammations are due to gonorrheal infection. I believe this to be a very low estimate, yet it is much nearer the truth than the general assertion that nearly all cases are due to gonorrhea. At all events I think we are perfectly safe in ignoring the mythical latent gonorrhea as a cause in such conditions. As a rule when gonorrheal infection is transmitted it is only during the declining stage of an acute attack, but this only because during the early stages of the disease the male organ is so inflamed, sensitive and painful and the discharge so profuse that coitus is not indulged in.

I do not consider that the treatment of pelvic inflammations resulting from either non-specific or specific vaginal or uterine discharges varies in any manner from that of pelvic inflammations resulting from other causes. The lesion once established it gives its own indications for treatment whether that be by local or internal medication or surgical procedures.

I cannot, however, forbear expressing the opinion that the reckless use of strong solutions of nitrate of silver or sulphate of zinc in acute gonorrhea may have much to do with the extension of the gonorrheal virus to adjacent organs and tissues and the subsequent development of inflammatory processes therein. The influence of such heroic measures in the treatment of gonorrhea in the male are too well known to be intelligently denied. Cowperitis, prostatitis, cystitis and other inflammatory diseases of the genito-urinary tract are thus produced, and if so, it is equally reasonable that the use of similar agents in gonorrheal vaginitis may induce an extension of the disease along the uterine canal and the Fallopian tubes.

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Discussion.

M. Belle Brown, M.D.: The subject of the paper that has just been presented has always been and still is one of great interest. Bearing in mind that inflammation of the uterus and endometrium act as direct causes of inflammation of tubes, ovaries, cellular tissue and peritoneum, yet it is the septic and specific poisons which produce these lesions most frequently. The rôle played by gonorrhea is freely admitted. There are, however, causes outside the pelvis, as pressure from tumors, hepatic and cardiac disease, in fact anything that obstructs the circulation may cause a low grade of pelvic inflammation.

In regard to the diagnosis of specific inflammation, there is nothing in the gross appearance of the discharge that is absolutely pathognomonic of gonorrhea. The urethritis and Bartholonitis are strong diagnostic points. The part played by latent gonorrhea as a cause of specific infection I can only speak from clinical experience; never having the diagnosis confirmed by microscopical examination. That a latent gonorrhea may be relighted by excessive use of stimulants and a young woman infected, I have no doubt—I say a *young* woman —one whose tissues are fresh and tender, can be affected from a relighted gonorrhea or gleet. Women who have borne children, where the epithelium of vagina is hard and horny, will resist the action of the micro-organism; so every woman who has been exposed to the contagion will not suffer, but it is the exception that proves the rule. The tubes are the channels of communication to the ovaries and pelvic peritoneum in specific inflammation. In septic inflammation, the infection is more likely to be through the lymphatics and veins; especially in a post-puerperal state. In all pelvic examinations special care should be taken to disinfect the vagina before resorting to intra-uterine manipulation. The vagina bacillus has a protective influence and will destroy, in a measure, the streptococus and staphylococcus. So in all cases in which the vaginal secretion is altered special care should be taken to disinfect it, as the vagina bacillus perishes in a pathological secretion and a favorable soil is provided for the development of pathological germs; various kinds of douches, pessaries and a depraved blood state will produce this altered secretion. The vagina bacillus is absent in the puerperal state; hence the pathological germs are given a chance to flourish. This bacillus in its normal acid medium is the big fish that eats up the little ones. It was formerly thought that almost all ailments of women were attributed to the so-called cellulitis; but since we know better how to examine a woman's pelvis we find what we thought was an inflammatory exudate is tubal or ovarian disease. The treatment of specific inflammation after it has reached the tubes and ovaries does not differ from simple inflammatory troubles. During the active inflammation a prolonged hot douche is beneficial, but the continuous douching that physicians employ and women are fond of in chronic conditions is injurious rather than beneficial. A cleansing douche in these chronic cases is all that is required. Every means

should be resorted to equalize the circulation; cold baths and cold applications to the sacrum are more beneficial than the relaxing effect of the hot douche. Iodoform suppositories in the rectum of three grains each every other day, and ichthyol and glycerin 10 per cent. in the vagina will go far toward absorbing the exudation. Many of these cases come to the operating-table for permanent relief. The bowels should be kept open with a saline laxative and menstruation promoted.

Homœopathic remedies: Bell. and merc. apis; kali iod. and kali chlor.

THEODORE J. GRAMM, M.D.: I regret to see some of these excellent papers pass without discussion. They have touched several points in gynecology which are of tremendous importance for the general practitioner and for those, likewise, who are known as being engaged in special work. I am very sorry the previous paper was not discussed. The doctor has very pointedly stated his opinions concerning the subjects which he has touched upon. I would like to call attention, however, to the fact that it is extremely rare for a virgin to have a pelvic abscess, or for a woman in whom you can demonstrate by some evidence regardless of the word of the husband that he has not had gonorrhea. Such women very rarely have pelvic abscess. I do not know that I have ever known of a virgin having a pelvic abscess that was not tubercular. In addition I would like to say that the bacteria which usually produce the pelvic abscess have often disappeared when the discharge is examined at the time of the operation; or, if present, it will be in a case that is operated early. If the case be operated late, you may examine the pus and not find gonococci especially, for the reason that, as is known, these micro-organisms disappear rapidly from the discharge. On this account, in all probability, it was so long before we knew that gonorrhea caused so many pelvic abscesses, and which for many years were thought to be "cellulitis" and "peritonitis;" and that same idea has likewise prevailed in the previous paper and the necessity thought to exist for differentiating these two according to the old views. In respect to auto-infection, I do not wish at present to take up this matter. I cannot see, however, how it is possible, as the Doctor jokingly said, that a discharge can infect after it is discharged. He called attention to the fact that he referred to the discharge infecting the patient before this discharge, which is characteristic, we will say, of the organ, had become infected from without. Is that correct, Doctor?

A. Before it is exposed to atmospheric influence.

DR. GRAMM (continuing): I was about to say that the normal discharges from the genitalia become infected from without. It is rare to find an erosion of the cervix uteri in a virgin other than as an evidence of an infantile, or even fetal, or early post-natal disease. The infection of discharges from the genitalia is derived from without. You will usually find the cervical glandular inflammation in a woman who has had the parts suffer exposure to the atmosphere, or exposure to infection during the ordinary every-day life. Then

also there is the great likelihood of infection from the male; and we all know it is very well recognized that a large majority of men are infected with gonorrhea. Now if the woman is not infected by gonorrhea it is remarkable how very frequently sexual excesses may be practised shortly after marriage (and I am of the opinion that this is frequent, especially in those who were continent prior to that time) and from this excess there will arise no pelvic disease, no vaginal, no uterine disease—nothing except some little influence upon the nervous system; but when the young man gets married whom you may have known socially and about whose morality there is some suspicion, his wife often becomes affected by disease in the pelvis. This is attributed to an accident or some other cause, but we all know—if we know anything—that the large majority of chances are in favor of this being an inflammation due to gonorrhea.

ALONZO BOOTHBY, M.D.: I fully agree with Dr. Cowperthwaite's position in regard to this matter. It does not seem as though we can without question relegate all of these cases to that disease, gonorrhea. I do not think that a virgin does not have pelvic inflammation—they do occasionally have it, and have abscesses: I believe I have seen them myself when there was no possible reason to attribute it to gonorrhea, and in healthy women; but the conditions of a married woman make it more possible for infection, as Dr. Cowperthwaite has indicated in his paper; and I believe that we must look not to gonorrhea altogether as a cause of pelvic inflammation, and that you must study the cases to find out if there is not some infection from some other cause. Of course, we have considered that inflammation as a specific cause every time, for it exists; if we do not accept that, we cannot stand anywhere; we have no basis for computing our calculations; if you assume that there is an idiopathic inflammation somewhere, sometimes, existing, then we are all at sea—we have no basis for calculation; but if we assume that inflammation has a specific cause, just as the inflammation that comes in smallpox and scarlet fever and any other diseases, if you assume that, then you must assume that the pus from these secretions—not in healthy secretions—I did not understand that you assumed that they were healthy secretions; they were diseased secretions; they were inflammatory products; and that they either traveled up the tubes, or were forced up the tubes and forced out into the perineum and forced over a ruptured ovary that has just discharged a vesicle and infected in that way; and then we can account for all our cases of pelvic inflammation and with reason, and we can discard some of the gonorrhea.

ELIAS C. PRICE, M.D.: I have a patient that I think about fifteen years ago began having pelvic abscesses; and that she was a virgin I have no reason to doubt at all. In that time, I think, she has had twenty-five to thirty pelvic abscesses. There was one time she had one nearly every month for a whole year. Whether it could be hereditary or not I do not know. Her mother has had three, or four, or five; and one married sister has had nearly a dozen. She

has certainly had twenty-five to thirty; she does not have them nearly as often as she used to, but has them occasionally now; and of her being a virgin I have not the slightest doubt: unmarried woman.

GEO. R. SOUTHWICK, M.D.: There is, possibly, one source of infection which is not always considered. We know that bacteria do not thrive in acid media. If a patient has leucorrhea (and leucorrhea may occur under conditions which do not admit of infection) there may be an excess of alkaline secretion from the urticular glands of the uterus; the vaginal secretion is originally acid, and the pathogenic bacteria will not thrive in an acid medium. The secretion may become alkaline; and under those conditions bacteria easily develop. We all know how easy it is for a patient to become infected in a thousand and one ways; the bacteria of suppuration in some way come in contact with that patient; the leucorrheal discharge is infected; it extends up by means of the leucorrhea to the uterine cavity and the mischief is done. Infection may sometimes follow an examination. We are not always as particular as we ought to be about the absolute asepsis of our hands and instruments; and our patient becomes infected in consequence. Then again I believe the uterine sound is used a little bit too frequently and that sound is not always boiled before it is used; and so, with the best of intentions, some patients become infected simply by being treated, perhaps, a little injudiciously. There is another source of infection which is very common; and that is, infection in consequence of an improperly treated abortion—from lack of care in asepsis of the puerperal state. One of the most fertile causes of uterine trouble is the lack of making sure of the thorough asepsis of the uterine cavity after all cases of abortion. Gonorrhea is important, but its importance is overestimated. If it was as important as many would have us believe, there are very few women who would escape having pyosalpinx.

In regard to latent gonorrhea, we have no gonorrhea that will infect unless a gonococcus is present.

C. B. KINYON, M.D.: I would like to ask Dr. Price how the abscess in the case he has in mind was discharged?

DR. PRICE: Into the vagina from the cul-de-sac.

DR. KINYON: Each and every time?

DR. PRICE: Yes.

DR. KINYON: Have you a definite idea as to the cause of the cellulitis the first time?

DR. PRICE: Taking cold was the only cause I know of.

DR. KINYON: Did you ever open the abscess?

DR. PRICE: No, sir, never.

DR. KINYON: Then of course there would be liable to be several attacks if the patient survived. It is always best to open these abscesses freely and pack and heal them from the bottom. I don't know, Mr. Chairman, whether I shall confine myself exclusively to Dr. Cowperthwaite's paper, Dr. Smith's paper covering to some extent the same ground, I may touch upon some points that he mentioned. Dr. Boothby

made a statement which is absolutely correct; but I am afraid some of us misunderstood exactly what he means by the term "specific inflammation." I have heard of doctors who meant by "specific inflammation" gonorrhea altogether. I do not think Dr. Boothby means that; what he means by "specific inflammation" is that we must have, in all cases of inflammation, some form of infection—some form of germ, or other product. I like the word micro-organism, or their product or products. You may have mixed infection. With that idea in mind, what Dr. Boothby said is absolutely true; you cannot have true inflammation in the Fallopian tube or anywhere else in the system, I care not where it is, without some form of infection. That is absolutely true. Now then, as to the cause of pelvic abscess; it is not always caused by gonorrhea. Some one has said tuberculosis may cause it; so it will. Auto-infection may come from the Fallopian tube. I doubt not but what this case of which Dr. Price speaks was not a case of gonorrhea at all; it came from some infection, probably auto-infection—constipation or inflammation preventing the waste products from being eliminated, and they were absorbed; and if she had one abscess and it was allowed to heal of itself, without any surgical measures, she certainly could expect more.

As to some points of Dr. Smith's paper: (1) She never had any surgical treatment; therefore, she would have a recurrence of the abscesses. (2) The statement that Dr. Smith made that salpingitis and pyosalpinx were identical rather seemed to me—well, I hardly know how to express it, because they are so distinct. This is really the truth of the matter; they are not alike at all, in any way, shape or manner, either in the symptoms or as to the consequence. Salpingitis is simply an inflammation of the tube; while pyosalpinx is more than that. We have in it pus formations, which certainly means a very different thing. You cannot cure pyosalpinx with all the remedies in Christendom. Nature may cure it sometimes if the pus finds its way out; but nature don't often do it. It is either a surgical operation or nature helps to find a way out and healing it in that way; but that is a treacherous and dangerous way, expectant treatment bad indeed. Dr. Cowperthwaite is substantially correct as to the relation of the specific and non-specific causes of pelvic inflammation. I doubt not that this case of Dr. Cowperthwaite's which he outlined was a case of specific inflammation—not gonorrheal, but specific in the sense that Dr. Boothby meant. That woman was infected not because her husband, or anybody else, had gonorrhea, but from auto-infection in some form. I am somewhat appalled at some papers that have been read here to-day. I know I was a boy raised in the country; but I do not think the majority of men have gonorrhea; and I do not think the majority of women that have pelvic inflammation and pelvic abscess and so on and so forth have gonorrhea. Dr. Boothby has just asked that I should state positively that he did not mean by "specific," gonorrheal.

THEO. J. GRAMM, M.D.: That was altogether too rash on my

part to make that statement, and if those gentlemen from that section of the country will pardon me, I will say I referred to a report that this condition of affairs existed in New York City.

Some Points in the After-Treatment of Abdominal Section.

By Homer I. Ostrom, M.D.

It may with truth be said that the majority of cases of abdominal section require no after-treatment, other than such medication as incidental conditions call for, as the larger proportion of laparotomies run a perfectly normal course and need only attention to diet and rest. This could not be asserted a few years ago, for then our cases ran a high fever and a rapid pulse, and were marked by much greater systemic disturbance than now. At present it is unusual for even complicated cases to be followed by more than a slight rise of temperature, and they frequently run their course without a dose of medicine, save a cathartic within the first twenty-four hours. Upon this I insist in all my cases, and I believe that by so doing I avoid complications much more serious and difficult to overcome than any possible discomfort that can arise from the bowels acting at an early date. The anesthetic and the shock—which under the best and most favorable circumstances always follows an operation—arrest in a certain degree the functions of the body, and especially those of the eliminating organs; and as a consequence the waste material of the system is not removed, but remains to generate poison and furnish food for bacteria.

I am always particular to insure a healthy action of the kidneys, liver, lungs and intestines, as a part of the preparatory treatment for a laparotomy, and I am equally anxious that these organs shall continue their eliminating function after the operation. My routine practise is to order on the afternoon of the day following the operation one grain of calomel and soda, in divided doses, generally one-fifth of a grain hourly until the full quantity has been taken, followed in the morning by a saline cathartic. This is in ordinary cases, when there is sufficient peristalsis to insure a movement of the bowels with the aid of the cathartic, but when there is no peristalsis, simply from the shock to the sympathetic nerves, not from septic intoxication, I find one or two ten-grain powders of merc. dulc. lx. to act better; it stimulates the liver and has the effect of

exciting peristalsis. Thus within forty-eight hours the function of the intestine is restored and danger from that source of auto-infection anticipated.

The same principle actuates me in dealing with the renal secretion. Whereas, I formerly deprived my patients of water for twenty-four hours, wishing to keep the stomach quiet, experience has convinced me that this is unnecessary and positively harmful; for water does not increase the ether nausea, while it has the great advantage of supplying the system with a much-needed fluid and of stimulating the kidneys. Looking to the same end, that of furnishing the system with water, I always have an enema of dicinormal salt solution given before the patient recovers consciousness—perfect relaxation is essential to success—before she leaves the operating-table. I also, if flushing is necessary, leave as much salt solution in the abdominal cavity as it will hold. This supplies the system with water, while at the same time the intestines are kept floating, adhesions are prevented from forming, and the comvolutions that have been more or less disturbed during the operative manipulation permitted to readjust themselves.

I never deny my patients the relief from pain afforded by the use of morphine. Morphine is one of the greatest remedies we possess against shock. It is so by virtue of its analgesic powers, giving the nervous system an opportunity to recuperate. Having carefully prepared the secreting and eliminating organs before the operation I have no hesitation in using morphine to relieve suffering during the first few hours after the operation, believing that whatever deleterious effects may follow are easily overcome, and the advantages of rest and relief from pain far outweigh any possible disadvantages from the morphine. I do not wish to be understood as advocating the indiscriminate and excessive use of morphine after abdominal section. Far from it. I use the drug in these cases with the utmost caution. But I use it and I have never seen any bad effect from the practise. I think one reason that morphine has fallen in disfavor after abdominal operations is that it is given in too large doses and repeated too soon. After an anesthetic one-eighth grain will produce the same effect that one-quarter grain will produce under other circumstances, and as a rule it need not be repeated; but if it is, no harm will follow such minute dosage. The first night is usually the most trying to the patient. The nervous system has been severely taxed and requires and calls for rest. I know of no drug that can give rest to an equal degree with morphine.

I allow my patients to lie in any position they wish. No harm

can come from their doing so; on the contrary, I think the change of position, aside from the relief it affords the patient, assists in restoring the intestinal canal to its position and normal relations.

Water, milk—excluded before the operation—and broths constitute the articles of diet for the first few days. I do not like farinaceous food, it favors fermentation, a condition to which patients are prone, and one causing much of the discomfort following abdominal section.

I place my laparotomy patients on some preparation of iron as soon as they are able to take it, and I have more rapid recoveries, with less prostration and debility, than I did before I adopted the practise. As a rule my patients at the end of two weeks are apparently well and the extra ten or fourteen days of quiet are more in conformity with the classic physiological process of repair than because of any illness. I think my best and most satisfactory results have been from the use of "Gude's Pepto-mang.," though I have used "Hemaboloids" with more or less gratifying results. The iron in easily digestible form supplies a deficiency in the system caused by the shock of the operation. The blood-making organs suffer in the surgical shock and the blood itself becomes poorly nourished. Hence the efficacy of iron.

So much for the uncomplicated cases. They require careful watching but little medication.

I cannot, however, let this opportunity pass without signifying my confidence in transfusion as one of the measures towards success in abdominal surgery. I am confident it has, in my hands, saved many lives that otherwise could not have survived the shock of the operation. I have used it before the operation, when the patient's condition demanded a permanent stimulant—in such cases transfusion acts as a tonic—and I have used it after the operation, when from shock or hemorrhage the condition seemed almost hopeless. I have also transfused in that gravest of all conditions, septicemia. So great is my confidence in the treatment that I would not consider I had used every means at my command if I omitted this. My two words of caution are, do not delay transfusion too long, and do not use too large a quantity of the salt solution at one operation. It is better to repeat the operation, which is very trifling, than to overtax the heart and vessels at the first transfusion.

I will now ask your attention to one of the most serious complications, fortunately at the present day not frequently encountered, with which we have to deal and invite you to discuss its treatment. I refer to septic peritonitis and its surgical treatment.

No more lethal condition confronts the abdominal surgeon than operative septic peritonitis. The system is toxic almost before we are aware, and the intestines become paralyzed, a result of the toxemia, which favors an increase of the very condition from which it generated. To this state of the intestinal canal, paralysis, and its relief by surgical measures I desire especially to direct your attention.

One of the first recognizable local symptoms of septic peritonitis is paresis of the intestines. In the severer forms this is not preceded by the pain of peritonitis, that is peristalsis, but is a rapid progressively developing failure of the vis nervea of the intestinal tract. Without entering into a discussion of the pathology of septic peritonitis there is reason to believe that the intestinal paralysis which is so constantly one of its symptoms is a specific effect of the poison upon the nervous system. An early effect, as paralysis of the heart is of later development. Intestinal obstruction caused by adhesive inflammation belongs to a more advanced stage of the disease, and cannot be a cause of the arrested organic function which almost ushers in septic peritonitis. This condition has long been recognized among surgeons as the most serious and dangerous one in the course of the disease, for drainage being one of the principal arches upon which aseptic and antiseptic surgery rest, and the intestinal canal, with its lymphatic system, being the great drain of the peritoneum and the sewer of the entire system, arrest of this function cannot fail to be followed by the most profound disturbance, while at the same time the organism is deprived of one of its chief protections against the invasion of disease germs.

It is matter of frequent observation that intestinal paralysis may coexist with loose fecal evacuations. This condition should not mislead us, for it is in the beginning only, and the evacuations do not lessen in the slightest degree the accumulation of gas in the intestines and the consequent tympanitis. These loose evacuations are probably from the large intestine, and do not effect the small intestine, though the character of the discharge would suggest that it came from above the ileocecal valve. These data rather carry the impression that the small intestines are effected first in septic peritonitis, and that when the large intestine becomes involved the later stages of toxemia are marked. I incline to this opinion and to the further belief that the initial stages of the disease are manifested in many instances at the junction of the small with the large intestine. This, as we know, is a region prone to disease, and in the cases of septic peritonitis that I have operated upon I have inva-

riably found the center of inflammation to be at the ileocecal valve and the small intestine more involved than the large. Such a condition of the ileocecal region is not necessarily connected with the paralysis of toxemia, but it indicates the point at which obstruction is most liable to occur and serves as a guide for the operative procedure which seems to me to offer the best chances for relief and cure.

In considereing the treatment of septic peritonitis, arrived at the stage of intestinal paralysis, we have two indications to meet and two conditions to overcome. First, the toxemia; second, one of the effects of the poisoning. The treatment of one is medicinal, that of the other is mechanical. As long as the intestine remains inactive there is no hope for the patient, and no dynamic force with which we are familiar can restore the paralyzed nerves. Cathartics are worse than useless, for they excite the secretion of the canal and do not provide means for its discharge, thus adding to the dangerous distention. I do not wish to be understood as eschewing cathartics in septic peritonitis. On the contrary I rely greatly upon their use, but in the early stages before that "drum-like distention" appears which marks paralysis of the nerves supplying the intestine. As long as there is peristalsis and the abdomen remains soft, though distended, but when peristalsis ceases, medicine is powerless for good; the condition has become a surgical one and can be removed only by mechanical measures.

The chief trouble being located in the small intestine, above the cecum, enemas are of little avail in reaching the seat of the difficulty. Their only use is to clear the colon and remove any fecal obstruction that may exist there. This is important, but it is not curative.

For the mechanical treatment of the intestinal paralysis of septic peritonitis the indication is to permanently relieve the distended intestine. Relieve it not only of gas, but of fecal matter, and give it an opportunity to act, which it cannot enjoy when taxed to the utmost limit of its elastic power. Simple puncture will not accomplish this, the tube must be relieved of all internal pressure and allowed to contract upon itself.

With this end in view I have in two cases of intestinal paralysis from septic peritonitis opened the small intestine, performing enterostomy. Both cases were apparently hopeless ones, and both recovered. One was a severe pyosalpinx, which ruptured during removal; the other was an abdominal hysterectomy, for which no cause, and I believe no excuse, save upon the ground of auto-intox-

ication, existed for going wrong. Judging from former experience both cases would have been fatal under any other treatment.

The operation is very simple, requiring no preparation, and is attended with little if any shock. Two points, however, seem to me to be essential to success. First, the small intestine should be opened in preference to the large, and I would suggest that this opening be made where the greatest distinction exists, without regard to anatomical divisions. For reasons already stated, this will usually be found in the ileocecal region, and therefore in the majority of instances the operation will be performed in the right side. If the operation has been an abdominal one, it may be wise to make the enterostomy at the site of the primary incision, but the fear of making another opening should not weigh against the advantages to accrue from relieving the intestine at the most favorable point for drainage.

Second, at the same time that the intestines are opened there should be made provision for ample drainage of the abdominal cavity. By this I mean one or more counter openings, through which the cavity can be irrigated and drained. These openings are best made after the enterostomy is completed, for until that is done the intestinal distention is so great as to interfere with the proper cleansing and draining of the abdomen. One opening more or less will not make for success or failure, the object of the operation being to remove as quickly and as thoroughly as possible the toxic material and give the overcharged organs and parts a chance to perform their functions. Moreover, the pelvic circulation, vascular and lymphatic, is seriously interfered with by the pressure of the overdistended intestines and cannot be restored until they are relieved.

The technique I followed in the cases which I have referred to includes no new features, being the same substantially as that adopted in making an artificial anus under other circumstances, save that, as I have already indicated, I opened the small intestine in the place of the colon. The parietal and visceral peritoneum were united first and then the intestine was opened.

Inasmuch as it is the intention to subsequently close the intestinal opening it would possibly be advantageous to make a longitudinal rather than a transverse incision. With such an opening there would be less danger of operative stricture and the later suturing would be less complicated.

As I have said before, when I use flushing I seek to leave as much of the salt solution in the cavity as will remain; that is, after

the water becomes clear, as much is allowed to remain as the cavity can hold, and frequently after I have placed the drainage-strips I introduce the irrigating-tube and again flush the peritoneum. It has been a matter of astonishment to me to observe the rapidity with which the water is absorbed, so small a proportion of that introduced draining away.

These two cases in which I have performed enterostomy for the intestinal paralysis of septic peritonitis are insufficient as a basis for positive and exact treatment; all that can be said is that they were typical instances of desperate conditions, conditions that we know mean death, and against which we at present have no remedy or method of treatment upon which we can rely. The cases recovered and in my experience I have never known similar cases to get well.

Here, as in other departments of our art, we have to deal with two problems and treat our cases accordingly. The mechanical and the dynamic. Free incision of the intestine meets the first requirement in septic peritonitis with intestinal paralysis; for the second we will study our materia medica.

No. 42 West 48th Street.

Discussion.

J. C. Fahnestock, M.D.: Before attempting to discuss this paper just read, from Dr. Ostrom, I wish to express my personal thanks to him for this most valuable and intensely practical paper. In fact, it is a paper so clear, so real, as to place it above criticism, while making it a genuine pleasure to discuss. The preparatory treatment given is most excellent, and cannot be followed out too closely. Here I might add that some individuals may require special treatment for certain existing diseases, thus putting the system in such a state as to resist the growth of the septic organisms spoken of by the Doctor. In reference to morphia, I am fully aware of the existing prejudice against its use, and, I think, as the Doctor expresses it, arising from its abuse. There is a possibility of omitting it entirely if chloroform and amyl nitrite are given as an anesthetic, and with it the surgical technique to be such as to avoid nerve impingement. In most cases I think the indicated Homœopathic remedies will then be all-sufficient. When the Doctor speaks of septic peritonitis, there naturally arises in the minds of every abdominal surgeon a picture of the most dreaded condition imaginable; and when he reports the means used in the two cases that recovered, we cannot suppress our feeling of giving it the highest encomium. I am sorry the Doctor has not given us full details and tell us how many openings he made in the bowel. It has been a question with a great many how many openings of the bowels should be made in such cases—that is certainly a procedure that every case should have the full benefit of; it is too true, when complete paralysis takes

place and the bowels become obstructed with gas, the condition becomes one outside of the pale of medicine and if surgical means are not used the angel of death soon claims the victim. As to the use of normal salt solution, its great value is becoming recognized more and more every day and cannot be dispensed with by any abdominal surgeon.

F. L. NEWTON, M.D.: I realize the courage necessary to stand here and make a statement which it seems to me some of us should make with regard to this paper. I do not know the physician that wrote it; I have not a possible acquaintance with him, and there could be no personality in anything that I should say; but I wish that this might be referred to a committee, to be condemned as a paper read before this society which should not be printed under the auspices of the American Institute of Homœopathy. I say that if such a paper as that were written in answer to questions for any surgeon, I believe, in the old-school colleges or in the Homœopathic colleges, to-day, that he would not get his ticket in surgery. From the very beginning his after-treatment is that which produces the very necessity of his central operation. He gives morphia to close the bowels up and calomel to loosen them. If he withheld his morphia, he might be able to withhold his calomel; and his subterfuge for Homœopathic treatment is to give ten grains of a first decimal dilution, which is equal to one grain of calomel. Not but that all of us may use calomel: we may use those things; but in the manner in which the paper is put together, and the treatment as outlined there, it seems to me from my reading that it is entirely in opposition to the treatment by his very colleagues of the other school in the city from which he hails, if I read them correctly—that the after-treatment in those operations where there are no complications is not called for which is there in the paper; and I think it—really, I almost seem to read the minds of the gentlemen here present who are eminent in the field of surgery, which I am not—that they believe—I say I believe that it is in the minds of the gentlemen here present who are eminent in surgery, that this is not a paper to be given to younger practitioners as a system of treatment in abdominal surgery.

ELIAS C. PRICE, M.D.: Dr. Ostrom is not here to defend himself. I think some of the speakers have criticised Dr. Ostrom rather unmercifully for giving morphia to his patient. There are some diseases in which an anodyne at times is a necessity, where you cannot cure it is your duty to palliate, in cases of cancer, for instance.

I am perfectly aware that what I am about to say is not strictly according to order, but I think that all the surgeons present will be everlastingly grateful to me for teaching them how to get the anodyne effects of morphia without incurring the risk of getting that terribly nauseating and depressing effect so characteristic of the drug.

About three years ago I had a patient that suffered with cancer of the breast. The surgeon into whose hand I placed the case had operated on her three times, at last surgery could do more. The

pains were terrific and *had to be relieved.* I gave her one-fourth of a grain of sulph. morphia; it relieved the pain, but made her very sick. Sometimes I would find her very comfortable in the morning; within an hour after I would leave she would be wild with pain, her husband would telephone for me and I would be out. He would send all around the neighborhood for a doctor, and at last would get one. He would come in and give her a hypodermic of morphia and relieve her for a time. Her husband got a syringe and some morphia and I taught him how to use it. She said before her husband could get the needle from her arm, the nausea would come on and would take away all appetite; just as soon as the nausea would pass off the pain would return again, the hypodermic must be repeated, that would take away all appetite again so that for several days she absolutely took no food at all, and she was in danger of starving to death.

According to Hahnemann, nux is an antidote to opium, so I will give the bane and antidote both together. I had tried the nux after the morphia, but it did no good, so I dissolved one-fourth gr. of morphia in an ounce of water and added eight drops of the Homœopathic tincture of nux to it and she took it and had no nausea. I told the nurse that the time would come when we would have to give her one-half a grain of morphia, but I did not want to increase the quantity as long as I could help it. After a while the nausea returned again. I asked the nurse if she could account for it. She said she had to increase the morphia to half a grain. I said did you increase the quantity of the drops? She said no. I told her to give her twelve drops now. She did so and the nausea did not occur again until quite awhile afterwards. She added another one-fourth of a grain of morphia without increasing the quantity of nux. When she told me that she was giving three-fourths of a grain of morphia, I told her to give sixteen drops of nux in it. That controlled the nausea again and she did not increase either morphia or nux after that as long as she lived. I might in extreme cases venture to give twenty drops of nux, but I believe less than that would be sufficient to control the nausea if a whole grain was given. At all events I would not give twenty drops unless I was very sure that less than that would be insufficient. I have given nux in combination with morphia in a good many cases since that. I find it successful.

ALONZO BOOTHBY, M.D.: My young friend here, Dr. Newton, assumed to understand about a subject that he has had nothing to do with; and yet he says some things about it which are entirely correct: at the same time, it is a criticism of the paper which is unnecessary. I do want to say in regard to the use of a cathartic after the operation, I don't know why it is used. I do not know. I find my associates and everybody insisting upon a cathartic after the abdominal operation. I have made a number of abdominal operations and never have yet given a cathartic after the abdominal operation, and I have not given morphine in one case out of a hundred; and still I have given it occasionally. I give a cathartic before the

operation to empty the bowels so as to have the patient in a favorable condition and the bowels empty before they are put to bed and then they can be treated as Dr. Ostrom has indicated there. It is all very well with a few exceptions; and yet if there was a little more conservatism in it and not go and way outdo our allopathic brethren, it might be a little more acceptable to some of this body. At any rate, you do not need to use the cathartic after an abdominal operation, if your bowels are empty before you commence; and the substitute that I make for that is: I use a hot swathe clear around the body from the hips nearly up to the arm-pits; and if you have an adhesive distention of the bowels and you put that on and put your hot water-bags up against it, and keep it there, it will relax it to my judgment, and from my experience, decidedly better than the cathartic will do it.

C. B. KINYON, M.D.: One moment in way of reference to Dr. Ostrom's paper. I think it is an admirable and scientific paper. Just one suggestion as to the getting rid of this gas: what the Doctor has said about this being due to paralysis is the truth. What Dr. Boothby has said about not liking to give very much calomel is also true. I have an expedient—not an original with me—which I obtained from Dr. Skene's book, who claims that accumulation of gas is due to paralysis of the bowel; and this is the expedient: he takes about an ounce of a solution of gum acacia, and in this he puts eight or ten grains of quinine that has been made perfectly soluble by sulphuric acid and puts this mixture into as much water as he wants to make it warm—probably about four ounces of water: injects this into the rectum. What does this do? In scores of cases —for me it has done this, where the abdomen was distended and the patient was unhappy and uncomfortable: the gas would pass off in enormous quantities; then as soon as the overdistention was controlled the bowels would contract, the paralysis pass off and often there would be a rapid recovery. I have seen the temperature drop 4° in six hours after the use of this quinine enema.

G. W. ROBERTS, M.D.: Relative to this paper, I must say that I regard it as the other speakers have, a valuable paper. However, it would be very much more valuable—and a very good precedent to establish in this Institute—if we were to give credit to the men to whom credit belongs. I take exception to the use of such terms as "I suggest" and the constant use of the personal pronoun in a paper like this, which is "suggesting" things that have been suggested and have been in common use for some time.

Now, to the subject-matter of the paper, the cases referred to, of the extreme obstruction which were so greatly relieved when the intestines were emptied of gas, are not necessarily cases of septic peritonitis; we are discussing septic peritonitis; and when it comes to that I don't know what one can depend upon; when Dr. Ostrom says that he *depends* upon cathartics in septic peritonitis I congratulate him and wish I could *depend* upon something in these cases. I do not believe that anything in the way of medication offers hope;

and know of nothing in the way of surgical procedure which has, as yet, been *demonstrated* to be of value. The method by opening the intestine has been in use for some little time, and it is still under investigation; but no one as yet knows what it will do; and the idea of calling attention to it here and encouraging us to try it is very good; but I think that the Doctor should be careful not to convey to the public and to this body, or even allow them to get the impression that he is introducing that idea for the first time.

Of course, all men who have done any amount of abdominal surgery know that there are some cases in which a cathartic is valuable and they also know that there are some cases in which morphine is valuable; but a general statement, either condemning or lauding one or the other, without giving a detailed account of the exact case, with the most minute investigations of the case, is worth absolutely nothing. We cannot base an argument upon such evidence. The statement that the Doctor has operated a case of tumor and has had a certain general result following, that he has given a certain general line of treatment and the case has recovered—does not form a basis for discussion in a society like this—a society of scientific gentlemen and ladies. It is simply a waste of time: the cases reported are absolutely no value to us. The experience might have been very valuable to the operator, and, it would have been to us, had he given more detail; but I object, strongly, to the attempt at drawing conclusions from that sort of case reports.

S. F. Wilcox, M.D.: I am glad that this matter has been brought up—the question of giving credit where it belongs. I am sorry that the writer of the paper is not here; because it is rather unfair to discuss a paper without the man who writes it being present; but the one method which he offered in treatment of these cases of septic peritonitis—that is—of opening the small intestine originated, so far as I know, with Dr. Van Arsdale, of New York; and he published an article in which he gives the account of three cases in a late number of the *Annals of Surgery*. The technique which he gives there is exactly the technique which is reported by the author of the paper before us, and I think that the credit should belong to him, because he had spoken of the imperfect results which he had seen obtained by the McCosh treatment, where the abdomen had been opened and a large amount of saline cathartics injected into the intestines, and so he had improved upon this by introducing a large amount of saline cathartic through a long tube into the deeper portions of the bowels. I think Dr. Van Arsdale is the one to whom this is to be credited and to whom the credit should be given.

Now, as to septic peritonitis, so-called, that is a condition which comes on very early after the operation. My belief is that it is not a peritonitis at all. I do not believe that it is an inflammatory condition; for the symptoms of inflammation are lacking; you have not ordinarily the symptom of pain; you may not have a rise of temperature—you have very few symptoms. There is vomiting, tympanites, and complete paralysis of the bowels and often a sub-

normal temperature. That seems to me to be the condition which we call shock; that is a condition in which the nerves are utterly powerless and have no action upon the intestines to cause peristalsis. I do not believe that the mere obstruction of the intestines is anything more than a symptom. You can relieve the bowels of the gas; but you do not cure the case. I know that, because I have had that relieved by the use of galvanism—and the gas expelled in large quantities; and yet it would reaccumulate with the greatest rapidity and the disease go on to a finish of the patient.

Now, I do not see the use of giving morphine after the operation, as a rule. I think, with Dr. Boothby, that I do not give morphine once in a hundred cases. I am sure of that; I do not think I give it after an operation as often as once a year. I do not think it necessary—that there are other remedies controlling the pain quite as well; and that one should give morphine for a condition where it is unnecessary seems to me harmful to the patient.

B. H. SLEGHT, M.D.: It is fortunate as has been said, that Dr. Ostrom is not present; but let us remember that inventions have been made and identical conclusions arrived at by those working along the same lines though quite unknown to each other. And they have published their conclusions at practically the same time.

We should bear in mind then, that Dr. Ostrom and other constant operators could easily have done the same. For a complication so perilous to the success of abdominal operations two or more surgeons might easily try the same means of cure at the same time and the public not know of it at once.

It does not do for us to jump at the conclusion that it was not new to him when he did the first operation. Our minds often act with great facility; and sometimes two people are looking after the same object in the same way.

W. E. GREEN, M.D.: I would like to inquire if there is a surgeon in the room of any considerable experience in abdominal surgery who has not encountered just such cases as the author of the paper described, and who has operated not only once, but several times, in this way. I do not think that it is a question in which any one man can justly claim priority. It seems to be the most natural thing to do. Many of us have experimented in that line, so it would be hard to say who was the first operator to do it.

J. C. WHARTON, M.D.: I think we have been a little severe in our criticisms of Dr. Ostrom's paper: our statements have been a little too sweeping. I am somewhat familiar with this paper; and I am confident that the Doctor does not intend to convey, at all, the idea that we should give 10 gr. calomel, or ¼ gr. morphia, after every abdominal section. He does mean that there are cases which have recovered nicely under his care with such treatment; and we have no business to doubt it. Dr. Boothby says that perhaps once in a hundred cases he uses morphia. Perhaps that is often enough; but in that one case it was probably just the thing; and there are others

of us who have perhaps had just the same experience. I have in a hospital now a patient that I operated the other day, with peritoneal tuberculosis—cysts of the tubes and ovaries—whose pulse for forty-eight hours ranged in the neighborhood of 108. She is now recovering. We gave the patient morphine; but it was not the second patient within a year that had received morphia in the hospital after abdominal section. The patient is recovering; and I attribute the recovered as much to morphia, in endeavoring to hold down the pulse and quiet the patient, as anything that was administered. With reference to the enterotomy, I do not know that Dr. Ostrom intends to claim priority: I hardly think he does; and I do not know he intends to claim any great amount of credit for it. I know I do not: I did it myself six years ago, by records that are in the hospital; and I certainly do not claim any credit for it; because the patient died. I did it also three years ago, in another case—both extremely desperate—and that patient died. I did it upon one other that has recovered; though he would have recovered without it, perhaps. But I do feel that we ought to be a little more gentle in our criticisms of the absent. We ought to be disposed, naturally, to take the part of the weaker; and the weaker is always the absent.

Tumors of the Uterus and Ovaries as a Source of Pelvic Inflammation—Treatment.

By J. M. Lee, M.D.

So far as I have been able to search the literature but little has been written upon this subject assigned to me by Dr. Thompson. Therefore, what follows is written purely from my own experience, and I present it to the distinguished gentlemen of this section and the members of this great national body with hesitation. If, how-

Collapsed sac of infected fibroid cysts and uterus. Recovery.

ever, you will consider the paper from individual experiences, the writer will feel suitably compensated, as the subject is sufficiently important to elicit the best thought and discussion of the profession.

The etiology of pelvic inflammation induced, either directly or indirectly, by benign or cancerous tumors of the uterus or ovaries, may be summed up in a few words: pressure, sharp flexion with pressure on a long pedicle, torsion of the pedicle, degeneration of the growth from septic infection, tuberculosis and sloughing of malignant neoplasms.

Pressure from fibroid or malignant tumors of the fundus may be exerted from retroflexed or retroverted uteri which, when enlarged by either rapid or gradual growth of the tumors, lodge behind the promontory of the sacrum and beneath the broad ligaments in

Infected fibroid tumor, universal adhesions, partial enucleation. Hysterectomy. Recovery.

such a manner as to produce constant irritation, which finally develops sufficient peritonitis to firmly unite them to all the tissues with which they come in contact; or, if they ride up out of the pelvic cavity they may from increased size and irritation develop peri-

tonitis, with plastic exudation and adhesions of the growths to many if not all the organs with which they are contagious.

In ovarian tumors, the same conditions are operative, and where inflammation or adhesions are encountered without the presence of septic matter they are due to precisely the same causes.

Torsion of a long pedicle, whether of an ovarian or fibroid tumor, results in passive congestion, inflammation, or gangrene of the neoplasm, by the partial or complete obstruction to the blood-supply. Nature, in her efforts to maintain the vitality of the more or less strangulated growth, immediately develops inflammation of the tumor and of every part of the peritoneum which it touches; and adhesions form through which sufficient blood is carried to maintain the vitality of the growth, at least in part, and prevent the tumor from sloughing altogether.

Again, in rare instances, the long pedicle may be sharply flexed, and by the growth of the neoplasm pressure is exerted upon the pedicle in such a manner as to produce the same results seen from torsion of the pedicle.

Sepsis is another cause of pelvic inflammation, generally indirectly induced by tumors, and this, in my judgment, is the most potent factor in the development of the disease under consideration. It is brought about by the streptococci and staphylococci, which gain entrance to cystoma and fibroma, especially the former, from the uterus in badly attended abortions and confinements, from slovenly intra-uterine instrumentation, and from gonorrhea.

In malignant diseases inflammation is not often observed from the above causes, but develops from the breaking down of the growth, which is the usual termination of such affections, and pelvic peritonitis and death frequently follow from infection.

The symptomology of pelvic inflammation, as either the direct or indirect result of tumors of the uterus and ovaries, is varied and voluminous, and can only be intelligently considered by taking up briefly each condition separately:

In pressure, the patient experiences a dull, heavy pain in the back and ovarian regions, which is often accompanied by torpidity of the bowels, approaching if not quite resulting in obstruction. There is tenesmus vesica, retention of urine, with frequent urination or dribbling, either with a collapsed or distended bladder.

The symptoms induced by sharp flexion and pressure on a long pedicle (very rare) and torsion of the pedicle are identical. They come from the more or less complete arrest of the flow of blood to the tumor, and are always developed in uterine myoma and ovarian

cystoma, with long slender pedicles, of tumors which have not yet grown to fill the pelvis, and are entirely free from adhesions. The obstruction of the flow of blood seems to be progressive, and at first the pressure is only sufficient to cut off the venous return from the tumor, while the arterial supply continues. This causes passive congestion and rapid growth of the entire tumor, if fibroid, and quadruples its size within a brief period. If ovarian, as a result of the congestion and thickening of the sac, the fluid becomes very

Infected uterus and fibroid growth, universal adhesions. Partial enucleation. Recovery.

rapidly secreted and the growth of the tumor is marvelous. Now the whole sac, or, neoplasm, if solid, is inflamed, livid, and the tissues contiguous to it participate in the process. A newly formed sac surrounds the entire tumor, which is composed of all the organs and tissues in contact with it, held together by adhesions.

Up to the time the torsion or flexion took place the patient is well as usual and suffers but little if any inconvenience from the growth. Now, all at once she becomes slightly or considerably

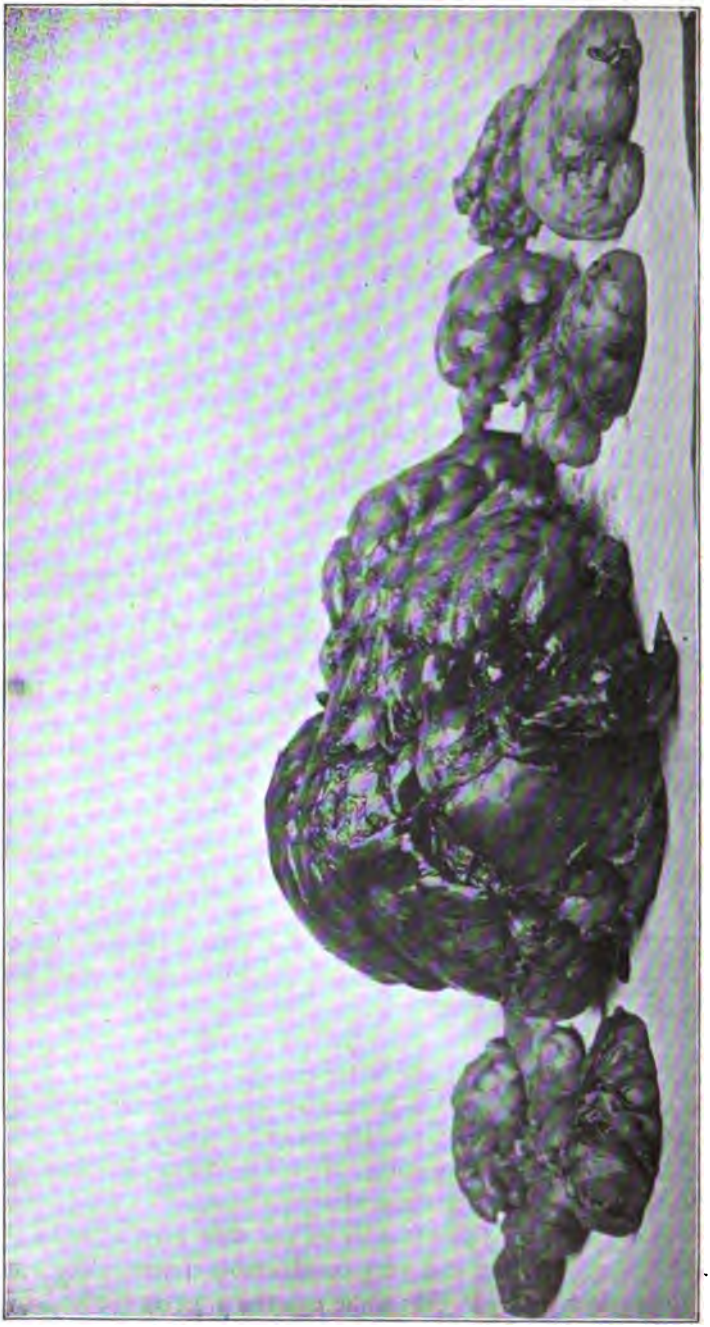
Infected fibroid uterus and ovarian cyst. Recovery.

feverish, the temperature reaches 101° to 103° Fahr., there is a sensation of heaviness in the pelvis accompanied by stitching, colicky pains, apparently caused by peristalsis and movement of gas and intestinal contents through the inflamed and sensitive organs which make up the adherent zone of tissue surrounding the tumor. The patient's tongue may be coated or parched and dry; she suffers from anorexia, constipation and headache. She is confined to the bed, and large quantities of serous fluid may be poured out into the abdomen from the tumor, and unless sufficient blood is supplied through the adhesions to prevent, it becomes quite gangrenous.

Small ovarian cysts infected from the uterus or tubes are transformed into ovarian abscesses, and it matters not whether the infection comes from an abortion, a confinement, slovenly intra-uterine instrumentation or gonorrhea the symptoms are the same, except that in the two former conditions the disease in the pelvis is engrafted upon the abortive, or parturient, state. The temperature is quite variable and ranges from 100° Fahr. in the morning to 104° Fahr. in the evening. The pulse is moderate in rate, or rapid, owing to the extent and violence of the attack. The patient has headache, loss of appetite, constipation, or diarrhea, accompanied by sensitiveness over the ovary, or seat of the tumor. On pressure, in Douglas' pouch, there is pain, which sometimes is of a throbbing character and quite characteristic of the development of suppuration. When a fibroid is thus affected, which is exceedingly rare, the symptoms are not so pronounced; indeed it may be impossible to determine the true nature of the condition.

The symptomology of pelvic inflammation, induced by the breaking down of malignant diseases of the uterus and ovaries, is, strange to say, not so severe or painful as suppuration of the ovary. This is probably due to the fact that the infection from sloughing cancer is not so virulent, and the temperature rarely rises above 100° Fahr. The pain is rather that observed in malignant disease in the pelvis, which is usually much less than that of infective peritonitis, still in some cases it merges into the latter condition.

The diagnosis of pelvic inflammation as the direct or indirect result of neoplasms is not usually attended by great difficulty, though it is frequently impossible, after the disease has been long continued, to make out the form of tumor which has given rise to the pelvic disturbance. The history of the case may serve to clear up the diagnosis, at least to a very considerable extent. For example, if the patient tells you that some months prior to the peritonitis she had what was diagnosed as an ovarian tumor and that it was



Infected fibroid uterus, tubes, and ovaries. Recovery.

freely movable in the pelvis, that before she presented for treatment she had a miscarriage, a confinement or pelvic inflammation from other recognized cause it would probably serve to show that the disease was first ovarian tumor, and that it was infected by at least one of the above conditions. In fibroid disease it is not difficult to discover the nature of the malady by digital or bimanual examination.

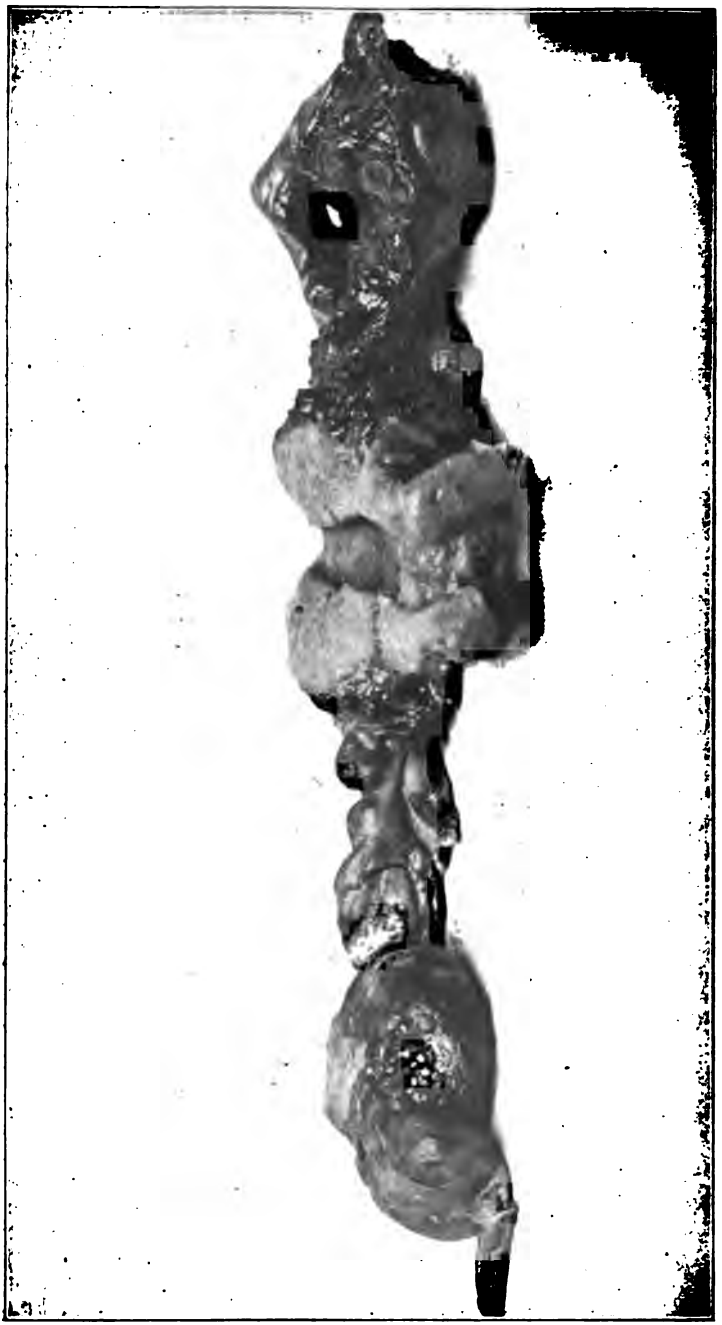
If inflammation in the pelvis is due to infection from sloughing cancer of the fundus, the watery discharge, the hemorrhages, the curette, the history, with bimanual examination will usually enable one to make a correct diagnosis.

When the disease is in the appendages, as well as the fundus, the ichor is secreted in the pelvic capacity, where it causes a low grade of peritonitis. Not infrequently the abdomen tolerates gallons of fluid, partly from cancer, and partly from peritonitis, caused by this malignant disease. This condition is sometimes difficult to diagnose from ovarian cyst (especially when ruptured) and tubercular peritonitis; but the presence of nodules in Douglas' pouch and the ovarian regions, with the history of the case and the use of the trochar and microscope, usually serve to clear up the diagnosis. If these fail, the exploratory incision must be employed.

The prognosis depends upon the variety of the growth, which either directly or indirectly causes the pelvic inflammation, and in order that the subject may be comprehensively presented it will be necessary to take up each variety of the disease and discuss it separately.

Pelvic inflammation, then, as a result of infected ovarian cyst: If the case be left to nature the sac will undergo ulceration and discharge its contents into some hollow organ with amelioration of the symptoms; or, into the cavity of the pelvis, where it will set up septic peritonitis, and destroy life within from ten hours to six days. In other cases the disease of the peritoneum may be of the purulent order and the patients survive a few days longer. Probably the most fortunate termination would be a circumscribed abscess, caused by adhesive inflammation which surrounds the purulent collection. This abscess might discharge itself into the bladder, the rectum, or through Douglas' pouch. Again, in rare cases, it reopens and infects new areas of peritoneum, thus causing multiple abscesses and probably death.

When the inflammation is chiefly from pressure the patient may succumb directly to inanition due to loss of function through reflex action, or from obstruction of the ureters or bowels.



Infected uterus, tubes and ovarian cysts. Recovery.

In torsion of the pedicle life is terminated either by sepsis from the gangrenous process, or from enormous accumulations of fluid within the abdomen from passive congestion in the growth.

When cancerous disease is encountered death is due to progressive sepsis from the breaking down of the tumor.

Nothing in the treatment of pelvic inflammation, as a result of neoplasms, promises success except the appropriate surgical procedure. I know there are many who talk about cures, or at least putting their patients in condition for operation, by the use of electricity (especially in fibroma) but I always feel more comfortable if the history of my patient shows that her case has been conducted without recourse to any remedial measures, except the administration of appropriate medicines. In fact, when electricity has been prescribe for fibroid growths of every description, we as gynecologists generally expect to encounter adhesions, if not other more serious complications. Whether they are due to faulty application of the current or disregard of aseptic principles the results are the same. The mortality from surgical treatment, before the cases are left too long, or spoiled, is not more than two or three per cent.; therefore it is generally better to lay aside all these measures and speedily bring the case to operation.

In infected ovarian cyst it is preferable to operate through an abdominal incision than to attempt to remove the tumor per vaginam, for, as a result of pelvic inflammation, adhesions have formed to surrounding tissues, and they can only be successfully dealt with through a liberal incision.

The patient is placed in Trendelenburg's position and the intestines crowded back out of the pelvis by the use of one or two towels, and great care taken to wall off all uninfected areas with gauze-pads before the abscess is removed.

When the entire field is clearly in view a ligature should be carried around the ovarian artery at a point where it crosses the iliac vessels and another close to the horn of the uterus; then with the borders of the incision carefully protected by towels and gauze-pads the pus is drawn off through a suitable trochar and cannula and the punctured wound carefully closed by clamps as the cannula is withdrawn from the collapsed sac. The adhesions are divided and the sac of the infected cyst lifted out of the pelvic cavity and ligated off by sheep-gut sutures, which have been prepared in the usual way, then preserved in a solution of sterilized resin in alcohol, in the proportion of two ounces of resin to eight ounces of alcohol. They should remain in

Fibroid tumor, twisted pedicle, universal adhesions, rapidly edematous growth of tumor, large accumulations of ascitic fluid in abdomen. Recovery.

this solution two weeks before they are fit for use. I speak of this specially prepared ligature because when the knot is once tied it will not slip, and the sheep-gut thus treated lasts in the tissues ten days, which is of great satisfaction and utility.

My preference for the abdominal route, in such cases, is on account of the ready access to the parts, and that one may work by the aid of good light.

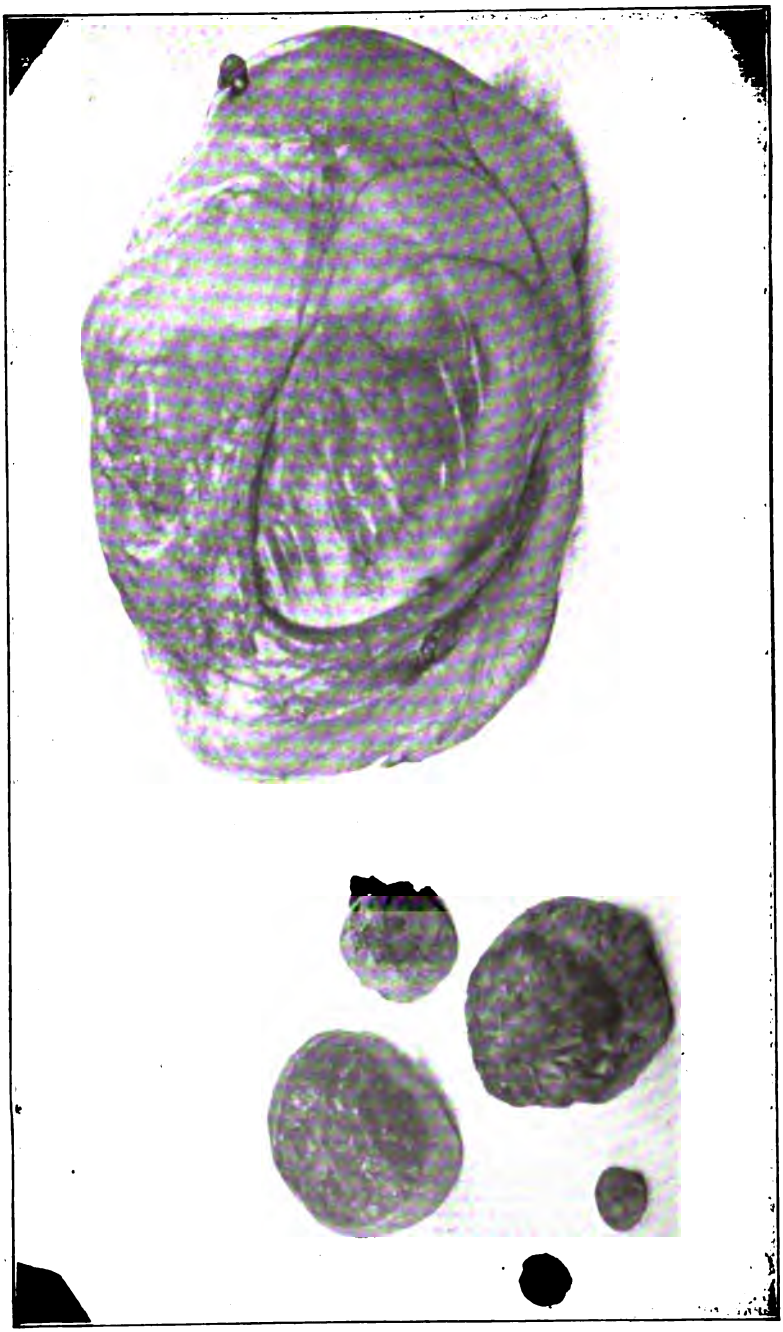
Three or four times a year the surgeon in busy practice, by this operation, will be able to divide from about the sigmoid flexure of the colon adhesive bands, which produce partial obstruction, and in themselves endanger the life of the patient. He will also find many cases in which the bladder was enormously distended at some time during the period of pelvic inflammation and became adherent to everything it touched. Three times during the last year, in such operations, I have found it spread over the fundus, the tubes, the ovaries, and the intestines to a point as high as a horizontal line drawn midway between the symphysis pubis and the umbilicus. The surgeon in these cases always needs all the room and light he can get, through a long incision, to arrest hemorrhage and to close either accidental or pathologic openings in the intestines should unknown or unfortunate conditions demand such treatment.

From the foregoing complications it is evident that, if we would conserve the interests of our patients, we would not indulge in any preconceived notions of refinement as to the short incision, or join the ranks of the "colpotomaniacs," who clamor for the adoption by the profession of their method of operating nearly every thing through the vagina. Do not misunderstand me! I would not condemn colpotomy, but merely its abuse.

If the infected ovarian cyst, which now is really an ovarian abscess, has ruptured in the pelvic cavity and formed a circumscribed pelvic abscess, accompanied by a high grade of sepsis and fever, with anorexia, sweating, and emaciation which is the usual condition present when the gynecologist is called, it will probably be better to introduce an exploring needle through Douglas' pouch, to locate the pus, then make a free incision posterior to the uterus and drain.

It is unnecessary to wash this cavity out with any antiseptic solution, though if the operator feels the patient will not be well treated without it, it may be resorted to, though he can never be certain that the solution will not carry pus through delicate adhesions to uninfected portions of the abdominal cavity.

This would be indeed very unfortunate, and it is safer to employ



Twisted and gangrenous pedicle, rapid edematous enlargement of tumor, abdominal ascites, universal adhesions which prevented gangrene of tumor, degenerated fibroid nodules taken out piecemeal. Recovery.

good drainage by means of two half-inch rubber tubes than to endanger the life of the patient by new extension of the septic area.

The treatment of pelvic inflammation, as a result of ovarian cystoma and uterine fibroma with long twisted pedicles, demand speedy abdominal section as the only rational means of treatment. If the operation be performed early there will be encountered, probably, a few quarts of serum in the pelvic cavity due to passive congestion in the growth; the adhesions can readily be divided by the fingers or sponge and the operation easily completed. At later periods the tumor will be firmly adherent to every thing with which it comes in contact, and through this union sufficient blood-supply is generally derived to nourish the tumor. In such cases the serum is partially or quite absorbed, and the surgeon finds himself obliged to complete the operation by enucleation. When the pedicle is reached, if at all, it is found to be small, twisted, partially or entirely gangrenous, and incapable of supplying blood to the tumor.

In this operation, like the former, towels and gauze-pads should be so placed about the operative field that, in case infection is encountered, it may be entirely confined to the sac from which the tumor was enucleated. When all hemorrhage is arrested it is safest to sew the top border of the sac to the peritoneum, beginning at the lower angle of the wound on the left side, and quickly uniting the upper edge of the sac to the peritoneum of the abdominal wound, entirely around the incision by a continuous suture, and finish at the lower angle of the wound, on the right side. This shuts the peritoneal cavity entirely out of any infected areas and prevents the intestines from falling down on the raw surfaces left by the enucleation, and thus prevents death from obstruction of the bowels and septic peritonitis. The cavity is nicely sponged out, packed with gauze, and made to fill up from the bottom and cicatrize over, which usually takes from five to eight weeks.

When the sac cannot be thus stitched to the peritoneum it must be packed with gauze as in the handkerchief dressing, and the intestines held out of the pelvis for forty-eight hours, when they will have formed adhesions sufficient to prevent their rolling on the raw floor of the pelvis. A glass drain must be used in connection with the gauze, and the fluid drawn frequently with a glass syringe, to which is attached a rubber tube.

Infected myofibroma of the uterus should be treated by myomectomy or hysterectomy, and carcinoma of the uterus and ovaries by hysterosalpingo-oophorectomy long before pelvic inflammation develops.

Time will not permit me to further discuss the well-nigh exhaustless subject selected for me by Dr. Thompson, the genial and efficient Chairman of this section. Enough has been said to show that the gynecological surgeon, who treats pelvic inflammation as a result of tumors of the uterus and ovaries, must be possessed of the highest grade of skill and professional efficiency. He must always be prepared, not only to perform the foregoing operations, but any others, which pathologic states of, or, accidents to, the intestines, the bladder, or the ureters demand. He must be a conscientious man; he must be a resourceful man; and he must be a *fearless* man.

Discussion.

C. B. Kinyon, M.D.: I am sure Dr. Lee will agree with me when I say that the subject of pelvic inflammation is a large one. Too large to be even touched upon in all its phases in one paper. This being true, I shall not take the time to go over Dr. Lee's paper in detail, but rather try to supplement it to some extent. Without argument, I will assume that by the word "source" in the title of this paper is meant "cause" of pelvic inflammation. With this idea in mind, I will at once proceed to state a few general propositions, in order that I may make my meaning clear. It is very essential that I make myself understood, for I know full well that I am about to state what seems to me to be facts, with which many of you will not now agree, but I firmly believe you will all agree with me in a few years; for what I state I believe to be the truth.

All true inflammation, in the pelvis as elsewhere, is due to but one cause, and that cause can be given in one word—infection, and by infection I mean micro-organisms or their products. "The etiology of pelvic inflammation induced either directly or indirectly by benign or cancerous tumors of the uterus or ovaries may be summed up in a few words: pressure, sharp flexion with pressure on a long pedicle, torsion of the pedicle, degeneration of the growth from septic infection, and sloughing of malignant neoplasms." I quote from Dr. Lee's paper.

Really, there is not much difference between us in regard to our ideas of the causation of pelvic inflammation; simply this: All these causes which Dr. Lee names are indirectly the cause, because they make the infection more liable to occur; indeed, may even make it sure to occur. In fact, their pressure may make infection inevitable. In other words, by their presence we not only have but *very often* must have infection with all its attendant evils. This being true, I would be even more emphatic than Dr. Lee in saying that they should be removed before they make this infection even probable, and not wait until they have made it inevitable. By removing them in time we avoid almost every danger, certainly the chief danger, infection. Of course, I assume the operation to be skilfully done under the strictest asepsis in its fullest sense, sur-

gically speaking. I know some of you will question my statement that there is but one cause of inflammation; therefore, I must tell you why I think so, and how this cause acts. To be sure, we may have, indeed do have, hyperemia, increased blood-supply to a part, the so-called reparative process; nature bringing about a cure. This is not true inflammation. This is not due to infection; in fact, as soon as such parts are infected the healing process is handicapped, or altogether suspended. Thus it is with tumors in the pelvis when they become infected. Inflammation is excited and nature is handicapped. In other words, is called upon to eliminate more poisons than it is possible for her to do. Her vital forces are thereby overpowered.

All benign tumors, wherever found, are governed by pathological laws, not by physiological laws. Not so with malignant tumors; they are not governed by any laws, either pathological or physiological. Indeed, the very essence of malignity rests in the fact that its processes are governed by no law; but are essentially destructive in character. The same is true to a great extent with infected tumors. They are not governed by any laws whatsoever; but there are a few things which we know regarding them. We know that this infection may come from anv one or a combination of one or more of over forty species of micro-organisms or their products. We also know that this infection may enter the system in one or more of three different ways; heterogenetically, endogenetically, or autogenetically. By bearing this fact in mind and investigating each case accordingly, we can tell where the poisons come from, and then we can tell how to stop their absorption and better tell how to cure the patient by getting rid of what has already been absorbed into the system.

The essayist has admirably covered all these points but one, and of that I wish to say a word. I wish to speak of this with all the emphasis at my command, because I feel that many in the Homœopathic school are derelict along this line. One class is derelict because their attention has never been called to this fact. Another class, and far more culpable, is composed of those who will not listen, because, forsooth, the treatment, they say, is not Homœopathic. I refer now to those cases where the infection enters the system from the intestinal or urinary tracts. The intestinal tract is always, even in the healthy, swarming with myriads of micro-organisms; these micro-organisms, when removed from their normal habitat, are infectious. In the case of tumors in the pelvis, obstructing their passage through the canal, these micro-organisms cannot find ready exit, and not only may be but are absorbed into the system, and infection is produced therefrom.

As members of the noblest profession on God's earth, as honest men in duty bound to do the best we can for our patients, we cannot afford to ignore the fact that poison generated in and absorbed from the intestinal canal and kidneys into the system will kill your patients. Why not, I would ask, in all candor, do, as did Lawson Tait (who, by the way, died a few days ago), give a good, vigorous cathartic, I care not what it is—anything to act promptly and

thereby eliminate these poisons, and then the beneficient law of similars will have a chance to cure the patient. While it cannot work, or is seriously handicapped, by the action of these poisons in the system. These poisons are the most common cause of the peritonitis and resulting adhesions of which Dr. Lee speaks as being so difficult to loosen in cases of operation. When these adhesions are found firmly uniting any form of tumor to the surrounding structures we may expect the infection to be more rapid and profound in its results. The essayist speaks as though nature in these cases had developed inflammation; what he meant to say was that infection developed inflammation, and nature, in her efforts to circumscribe this inflammation, formed these adhesions, and masses of so-called inflammatory exudation. Indeed, were it not for this process on the part of nature we doctors would be absolutely helpless in the majority of our cases.

THEODORE J. GRAMM, M.D.: I had hoped that I should not be the first to speak this morning; but am anxious that we shall discuss these papers. I fully agree with the Doctor in his admirable paper, wherein he stated especially that he is not altogether (as I understood) in favor of operating these cases by the vaginal route. I have had that subject under advisement for some years, and have made it a point to watch every case of pelvic abscess, or pelvic inflammation, that I have operated by the abdominal route, with the question distinctly in view at the time of the operation whether that case was one easily adapted to operating by the vagina; and it was only a few days before coming here that just such an occurrence took place. I operated a case, which was one of infection in all probability, traveling via the Fallopian tube, and forming a deep pelvic abscess, and in that case I tried to determine whether it might have been one for vaginal puncture; and said to the doctor who had charge of the case and who, though a general practitioner, is an admirable adviser in surgical procedures, that I thought this case of all others that I had seen, was one that might have prompted me to puncture through the vagina; and after opening the abdomen I was very glad that we selected the abdominal in preference to the vaginal route, because there were a number of foci of inflammation extending through the different parts of the peritoneum, between the intestines and omentum, etc., which would have made it absolutely impossible to have evacuated the pus wholly and thoroughly; and the woman would not have been benefited by the operation had it been done through the vagina.

When we have an infected tumor or a case in which we suspect that the tumor is infected (for instance, a cystic tumor) I think it is decidedly bad practise to puncture that tumor, and even if aided by sterilized pads to attempt to evacuate the pus through a trocar. Under those circumstances, if at all possible, I think such a collection of fluid should be removed entire.

JOHN E. JAMES, M.D.: I want to give you a synopsis of a case for the purpose of impressing on your mind the rapidity of the

growth and extent of the adhesions from these inflamed tumors, or tumors the result of inflammation. This case occurred last fall at the birth of a little girl delivered by one of our worthy and eminent lady physicians of Philadelphia (I think she is in the room now), with all the care usual in such conditions. She left her at the end of two weeks perfectly well. Some three weeks afterward the woman became sick with an attack of what the physician in her neighborhood said was simply some bowel trouble—her own physician being ill at the time—indigestion or something of that kind. She had been sick three or four weeks with a persistent tendency to diarrhea, more or less temperature and frequent chilliness. When her physician, recovering her health, was recalled, she found in the abdomen a growth which was not there before the birth of the child nor immediately afterward, but a good-sized growth which rapidly increased, a growth at first apparently solid and hard. I saw it some weeks after that, with a temperature 104 to 105 in the afternoon, chills frequent, with a fluctuating mass in the upper portion and as solid as a rock in the vaginal portion. I knew it was mainly an inflammatory mass; suspected, however, there had been a fibroid which had been stimulated to active growth. I sought an operation and it was refused (on account of the bad condition of the woman) for a week or ten days; and then she consented. She had not been carefully examined under ether before time of operation; had not shown evidence of the trouble more than six weeks When I opened the abdomen I found a growth, a cyst; at the bottom the wall was very thick, the sac tightly distended, although fluctuation well pronounced on top of sac, from which I evacuated over two quarts of pus. The adhesions extended posteriorly and latterly from the spleen on the left side down into the pelvic cavity—could not loosen it at all. I had a space in front where I could reach it; I drained it and washed it out, removed a portion of the sac and then stitched it to the peritoneum. I did not drain it through the vagina because of the exceeding thickness of the sac and amount of inflammatory tissue there. In less than three months it closed. The point I want to impress upon physicians generally—the early finding out of the exact condition of things; because if I had seen that early enough, if the doctor who recognized it first had seen it early enough, we could have undoubtedly removed the cyst; but the adhesions were so extensive and so firm that it was impossible to do it; and she had to go through three months of abdominal drainage which could have been avoided.

Just one word against, what I think, fortunately, has already turned back to its true position. We go in waves, you know; this tremendous wave of doing everything through the vagina, at the sacrifice of the patient too frequently. I say I am glad the profession is more disposed to individualize operative cares and not blindly a popular person or method. There are proper cases for vaginal operation; but there are cases that ought not to be so operated. Cases requiring plenty of room; and a clean-cut abdominal operation, no matter how extensive, is infinitely better and

safer than a torn and lacerated mass hauled through by the vaginal route.

H. W. PIERSON, M.D.: In the discussion of the relation between tumors and pelvic inflammation we have been listening to the mechanical side of the question, *after* it has reached the stage of the tumor formation. It is a serious reflection upon physicians—men who depend upon the indicated remedy for the treatment of these cases—when constitutional tendencies remain undetected until they reach the state in which mechanical interference is deemed necessary; and I believe if each and every physician would attend these sections and listen to these discussions it might lead them to do the very thing that is incumbent upon them, of so knowing all their patients, of so studying their peculiarities before the time comes for the use of the knife as to avoid, avert and abort this very state. The physician who thoroughly understands the nature of disease tendencies may be able to recognize these possible tendencies, and with this recognition may be capable of so guiding their patient as to avoid possible infection, possible disturbances of one kind or another, and with the use of his constitutional remedy bring that state of the constitution up to the point when infection will be perfectly innocuous.

O. S. RUNNELS, M.D.: Dr. Pierson opens another very large subject when he talks about prophylaxis. We should be very glad indeed to enter that field and to discuss it exhaustively, but the paper to-day is upon the developed condition, and what you are going to do about it. Dr. Lee is confronted by conditions which have passed the stage of therapeutics, often by weeks and months. The cases under consideration are usually long delayed cases; they are neglected cases; they are frequently undiagnosticated cases; and it may be a question of immediate or early death whether you take them in hand vigorously and act with despatch, or employ still further expectant treatment. I was very much entertained and instructed by this paper. There are questions raised by Dr. Lee that we have not time to discuss. The one thing, however, that I am glad he emphasized was this: you must have no stereotyped notions when you come to abdominal and pelvic surgery. You cannot approach a case of that kind with a set idea. You must depend on the conditions present in each case. You may be an advocate of the vaginal route for operations and believe that almost everything can be accomplished by that method; but any one who has had much experience knows that that will lead him to disaster if followed too implicitly. You may plan a fine operation per vaginam but you may not proceed far in its execution until you find yourself in difficulty and will have to convert your vaginal operation into an abdominal operation as I have done so many times with successful result. These are the kinds of questions that confront the surgeon; and no living man can predetermine in every instance just what he has in an abdominal cavity. You may pride yourself upon your diagnostic ability, but you will encounter conditions—you will

have problems thrust upon you—that will be a surprise to you when you open the abdominal cavity and find exactly what you have to contend with. If, therefore, you are in doubt as to the exact condition prior to, or during, a vaginal operation, employ the abdominal route where you can have daylight, or unimpeded vision and freedom of operation to aid you. You can thus perform an operation that will be in all respects surgical.

ALONZO BOOTHBY, M.D.: I take a little satisfaction to myself and believe a little benefit to my patients has ensued because I never accepted the position taken by some, that pus cavities as a rule could best be operated upon through the vagina. The fact is that every one who has had much to do with these cases has found cases where there was a pus cavity in each tube and in each ovary and quite a large number of cases where three of these organs were infected and others with two. Now it would be absolutely impossiblt to go up there and drain four cavities; and it is impossible to determine how many cavities you have before you commence the operation. I am very well pleased with Dr. Lee's paper and especially his stand upon this point.

J. M. LEE, M.D.: The Chairman cut Dr. Kinyon short in his discussion of my paper therefore I could not answer him on the floor of the convention. For this reason, I take the opportunity to state that I nowhere say in my paper that "Nature in these cases developed inflammation." Far from that. What I convey is that pelvic inflammation as a result of pressure from the tumor or flexion or torsion of the pedicle is purely mechanical.

In rare instances, the torsion is so sudden as to produce gangrene. Even after the growth has passed through the various stages of inflammation to this point, the abdominal contents, bathed in inflammatory and gangrenous fluids are not very septic. As an evidence of this nearly every such patient recovers from appropriate operative treatment even when they were in a very bad general condition. Adhesive inflammation of the tumor and tissues about it sufficiently supplies blood to the growth through the adhesions to arrest the gangrenous process which shows that there is not much sepsis present. Frequently much gangrenous tissue about the pedicle is found to have been absorbed. Occasionally the blood-supply to the tumor is solely from the adhesions as the vessels of the pedicle are found to be obliterated and the pedicle atrophied to a mere cord.

Appendicitis as a Cause of Pelvic Inflammation in Women.

By Alonzo Boothby, M.D.

Mr. Chairman: You have asked me to say something about appendicitis as a cause of pelvic inflammation in women. It is unfortunate that the most that can be said on this subject is about what we do not know. There is very little literature on the subject and none is accessible to me. My aim will be to call attention to certain facts demonstrated by a few cases.

It is assumed that all those who frequently open the abdomen have occasionally found an inflamed appendix in connection with pelvic peritonitis and with extensive involvement of the adnexa. The frequency of such occurrences would lead to a consideration of a possible relation between the two. The study of inflammations occurring in the abdominal cavity in recent years has developed the fact that probably nineteen-twentieths of cases of local or diffuse peritonitis come through the appendix or the Fallopian tubes.

It is assumed that with the writer others have met with cases where it was difficult and occasionally impossible to make a diagnosis between appendicitis and salpingitis. There is no question but that it is often difficult to decide whether a case of diffuse peritonitis is caused by septic matter going through the appendix or coming through the uterus, through the tubes, without the history and progress of the attack has been carefully kept. We meet cases where the clinical history has been so imperfectly noted or where the symptoms referring to the exact location of the origin of the inflammation are so obscure as to be of little diagnostic value as differentiating between the region of the appendix or the right tube. The appendix is sometimes displaced downwards so that its free extremity hangs over the brim and into the pelvis and accordingly occupies the position of the tubes so that the location of the pain or tender spot or the muscle rigidity would not help the differentiation.

This point is well illustrated by a case which the writer operated upon a few weeks ago, of a boy with a gangrenous appendix, six

inches long, which extended over the brim and down to the bottom of the pelvis nearly in the median line.

In this case the pain and tenderness, together with the rigidity of the muscles, were exactly where it would have been in a case of diseased tubes in a female.

While recognizing the facts that inflammation of the appendix and pelvic organs are frequently found existing together it is not easy to determine what relation exists between them. It is certain that the extension of an inflammation in the appendix naturally works down into the pelvis and that where purulent matter is developed it is more liable to extend down than in any other direction because the force of gravity takes it there. In severe cases we expect the pelvis to become involved if there is any extension beyond a local point.

The writer operated on a case of appendicitis where the abdomen was considerably enlarged, apparently extending up from the pelvis with a prominent fulness over McBurney's point. There was found an ulcerated appendix and a large pus cavity containing the concretion that had come through the appendix. With a careful attempt to wash out this cavity an ovarian cyst was ruptured and discharged its contents through the abdominal opening. In this case the wall between the two cavities was just ready to give way.

It is in the less severe cases that a question would arise as to whether with an appendicitis there was an involvement of the pelvic organs from an entirely independent source. There is no reason to doubt but what the two sometimes exist independent of each other.

Is it not reasonable to suppose that some of the chronic inflammations of the pelvis are caused by the extension of a mild form of appendicitis or recurrent attacks of this disease?

In many cases the appendix will come in contact with the ovaries and tubes and I am inclined to believe that these organs are more susceptible to infection than the peritoneum covering the bowels, as we know is the case with the omentum.

A patient was brought to me by Dr. W. A. Paul, who was said to be suffering from hystero-epilepsy with considerable pelvic disturbances such as leucorrhea, with painful menstruation, with marked tenderness in the uterus and broad ligaments. There was also some pain and tenderness in the right inguinal region.

Dr. Paul had consulted Dr. Frank C. Richardson, who confirmed the diagnosis of hystero-epilepsy, but advised dilatation and curettment of the uterus in order if possible to cure the existing endometritis. A careful examination was made under ether, which

developed nothing new. There was slight thickening and contraction in the broad ligaments and the curette brought away a small amount of endometrium. Nothing worthy of note occurred for several days, when the temperature and pulse began to increase, with some tenderness over the lower part of the abdomen, which was most marked over the site of the appendix. These symptoms increased to such an extent as to indicate an active local peritonitis; but whether originating from the tubes, being aggravated by the curettement, or from the appendix, was not quite clear. If there had not been a previous history of what seemed to be pelvic inflammation it might have been pronounced appendicitis without question. The abdomen was opened nine days after the curettement. Together with clear indications of an inflammation of a mild character, involving the adnexa and the pelvic peritoneum, there was also well-marked appendicitis without perforation.

The removal of the appendix has cured the patient. She never had any more epileptiform spasms and all the pelvic symptoms disappeared. At this time, after two years, she is a well woman. In this case there are strong reasons for considering the appendicitis as a probable cause of the pelvic inflammation.

Another Case.—Has been married nine years; has four children; oldest 8 years, youngest 1 year 7 months. Badly lacerated at birth of first child; repair made, but evidently not complete. Before this condition of things she always enjoyed perfect health, menstruating regularly with no discomfort. Four years ago she experienced pain and general discomfort in the R. hypochondrium. This pain came at irregular intervals; but was excruciating while it lasted. There was some rise of temperature and frontal headaches concomitant with the abdominal and pelvic condition. A clear or yellow, stringy, bad-smelling *leucorrhea* has been present for the last four years, for which condition she has been treated with tampons with some relief.

For the last two months all these symptoms have been greatly aggravated, the pain in the R. hypochondrium coming at the time of the menstrual period, which instead of lasting four days has run on for from twelve to fifteen days. Together with this aggravation of pelvic symptoms there has been swelling and tenderness in the R. hypochondrium. Also a feeling of tension and twisting about the umbilicus. Some rise in temperature present.

Bowels usually loose, poor appetite for the last two years. Pain on urinating passing up to the R. side. Examination of urine negative.

Examination.—Uterus anteflexed and bound down laterally, especially more marked upon the right side; more than twice the normal size. Cervix thickened and a projecting mass upon the lower (post) lip had an eroded surface. There were adhesions also about tubes and ovaries; both ovaries enlarged. There was tenderness and thickening over the appendix. The patient had been incapacitated for work or any enjoyment of life for so long a time that it was her desire and it was thought best to remove the uterus and such other parts of the sexual apparatus as were seriously involved; if it could be done with reasonable safety. The operation was made through the vagina. In one ovary there was found a cyst containing about two drams of dark bloody-looking fluid and taking the place of the normal ovarian tissue. There was a cystic degeneration of the other ovary. Both tubes showed marked indications of continued inflammation. I found the appendix nearly six inches long and firmly adherent to the peritoneum behind and extending up into the right groin. With some difficulty this was freed and brought down so as to be removed. In this case there were positive evidences of one or more attacks of acute appendicitis. It is impossible to determine just the relation between the appendicitis and the pelvic inflammation, but it seems reasonable to suppose that it may have been the cause or a cause of the latter. At the present time it is impossible to settle the matter under consideration, or to draw any accurate conclusions, but the question is worthy of careful study and observation. I shall communicate with my colleagues during the coming year and hope to have something more definite for our next meeting.

Discussion.

E. Stillman Bailey, M.D.: The last few words of Dr. Boothby's paper seems to contain really the key-note of the subject under discussion. He says that he intends in the immediate future during the year to communicate with his colleagues that are doing this kind of work, to find out their experience with reference to relative frequency of the appendicitis as a cause of pelvic inflammation. Now let us stop just a minute. Supposing those letters had gone out, what can we report? Is our work of a scientific character- Are we doing all we can to collect the data for such letters? Are we making every effort to present the cost to our own mind, to know definitely something about the true relationship of appendicitis to pelvic diseases? It is a live question; it is the question of the hour; the matter of the infective cause of disease seems to me to be the question of a few years ago; the relative relation of these causes to the immediate disease, as to the being found, explored, removed and cured, is really the step that we are taking toward

advancement in our art and in our science. Let me suggest —it is being done elsewhere with other surgeons; why cannot we inaugurate action and take the initiative right here and now—that every case of abdominal section that is met with between now and the next meeting of the Institute—have this before you in every case—that the appendix be thoroughly examined, every case; don't stitch up the abdomen until the appendix has been brought into view, measured, been examined, been treated with reference to its position in the pelvis, its position in the abdomen. I say position in the pelvis because it sometimes becomes a pelvic organ. Let me narrate the case just one moment in which this was so impressed on my mind; and it seconds the proposition of my friend, Dr. Runnells, and also with reference that you cannot do these operations before you get to the operating-room. They are not done mentally; they are done mechanically, with a patient before you. You do them after you get into the abdomen and not before. A patient was recently operated on in an adjoining State, not for a well-diagnosed disease but for a pelvic mass occupying the right fauci. Incision was readily made, and that mass was found to be so great that the uterus and the tubes were involved. Without any interference with the mass it was decided that it must be removed, because it had the pus nature and to leave it was to abandon the case to her death. Report hysterectomy was made: by that I mean systematic hysterectomy; and the handling of the tumor by certain lines of work was made, one after the other; steps were taken; the left ovarian artery was tied; the left round ligament was tied; the left uterine artery was tied; the peritoneum was stripped down; the cervix was incised; the right uterine artery was tied; the right round ligament was tied; and then came the release of the mass, so far as the uterus was concerned; so that the cause of the original disease could be seen, which was found to be an enormous diseased appendix, extending well down into the pelvis and attaching itself directly upon and almost at right angles to the right Fallopian tube; so that instantly it was determined that the cause of the whole pelvic mass was infection from the appendix. Then came the difficulty—the removal of the pelvic mass that went into the fauci.

There was no attempt to remove, but to drain; that is, the left; the right tube was cut out entire; the appendix was cut off; but the mass in the pelvis could not be included, could not be removed; and, consequently, the tube and the appendix were both carried down to the lower plane of the pelvis and drained through the vagina, showing the immediate sense of surgical skill that is necessary in removal of some of these extreme cases. I believe that we can help along our knowledge of these if in these causes, so far as relates to the appendix, if we make a thorough study of every single case that comes into our province.

J. H. McClelland, M.D.: I would like to ask Dr. Boothby if he has confirmed or followed out the observation of Edibole with

regard to the frequency of the involvement of the appendix in cases of movable or floating kidney?

A. I have had scarcely any opportunity to do that.

DR. MCCLELLAND, continuing: Edibole claims, singularly enough, that with a movable or displaced kidney the appendix is nearly always affected; that there is always pain along that region. He advises that when the operation for fixation of the kidney is had, the appendix ought to be examined, and, as a rule, removed. I have had two or three cases of displaced kidney to look after since my attention has been directed to this, and I followed the suggestion. In none of them was there any definite appearance of disease in the appendix. There had been a good deal of complaint, as there is nearly always in displaced kidney, of pain along the line of the ureter; but when the kidney in each case was fixed, this pain disappeared; so I imagine that what has been attributed to an involvement of the appendix is really attributable to the prime trouble, the displacement of the kidney itself, which always brings with it a lot of troubles.

I noted in the remarks that some mention was made about the probable location of the appendix. I found in one of the cases this year that the appendix, the apex of the appendix, was attached to the underside of the liver; instead, therefore, of finding it in the pelvic region always, we sometimes find it almost anywhere else.

Now I do not know what the experience of the members is with regard to the doing of several operations at one sitting, but I call to mind a rather interesting case in which there was a marked displacement of the kidney. I found that she had a good deal of trouble about the region of the appendix, that the uterus was badly displaced, the ovaries not in good shape and the cervix was badly off, lacerated. I concluded to go as far as I could, so I began by curetting and repairing the uterus. I then opened the abdomen and found a bad appendix and removed it. I found that both ovaries were cystic, soft and enlarged, absolutely no use, and removed them. Then I concluded I would fix the uterus. By that time the patient was showing signs of exhaustion and I thought I would let the kidneys rest for the present where it was. The patient made a good recovery and illustrates how much can be done at one sitting with a favorable case and under favorable circumstances.

O. S. RUNNELS, M.D.: In this discussion we are practically on new ground, upon the frontier of knowledge. As Dr. Bailey says, we find many unsolved problems along this line. I recall a case that had been running down for several years. Her chief symptom was an extreme pain in the right hypochondriac region, dating from her first and only parturition. She had an extensive cervical laceration that I repaired by trachelorrhaphy. Both ovaries were prolapsed and degenerated and the uterus was supine and intractable. In spite of symptomatic treatment and vaginal glycerole tampons long continued her sufferings were not abated. There was no improvement in the prolapses and backward displacement. The great

pain in the region of the right ovary and appendix vermiformis was in no wise lessened. Finally the ovaries had reached such a state of degeneration as to demand extirpation; the right one being of the size of an orange. I could detect no appreciable evidence of disease of the appendix, and reasoned that the pain at that site was reflex in character, and that the removal of the ovaries and appendages would restore her to health. I therefore performed hysterectomy, removing the whole pelvic genitalia by the vagina. As soon as she came from the anesthetic, however, after the operation, she said: "That pain is there yet." I assured her that it was reflex, that there was doubtless an impression on the nerve-centers like the pain in the scar of an amputated leg, and that it was but a memory. But it is a "memory" still, more than a year from the time of the hysterectomy. She has had a dragging sort of an existence, and is a great invalid. To show how things go in droves, her right kidney dropped down several months ago and now descends even into the region of the appendix, the pain in that region being still most intense. Within the last two months the left kidney has also begun to wander. The thought of removal of the appendix and the anchorage of both kidneys is appalling to her. She takes the anesthetic so poorly and is so nauseated for days by it that in her debilitated condition it is a serious problem. I am satisfied, however, that she can have no better health until her appendix is removed and both kidneys are again anchored. Whether the first deviation from the normal expression was in the appendix and secondarily in the ovaries, or primarily in the uterus and ovaries and secondarily in the appendix, is difficult now to determine; but certain it is they have been operating together and have been responsible for the third great manifest weakness, namely: the floating kidneys.

JOHN E. JAMES, M.D.: I am very much interested in this subject. We have gotten off from it in our talk. It has been a mooted question. Some claim that we never have appendicitis in women; that is, the extreme, of course; and there are some surgeons who claim that we always have appendicitis before we have salpingitis, the other extreme. Here are three or four cases by way of illustration. I had a case that came to me that had had an appendectomy for a pain in the right iliac region; she went to one of our noted old-school surgeons who always takes the appendix out if he has any excuse at all. The pain never left; she came back to our hospital and I removed the diseased ovaries and tubes and the pain stopped. I had another case shortly after that, in which I made a diagnosis of double salpingitis. I removed the ovaries from both sides and took a look at the appendix; we always looked at them but do not often find it diseased; if it is not we do not remove it. It is of some use, even if we do not know what it is; if it is diseased I remove it of course; in this case I left it alone. In six weeks she came back with a well-marked case of appendicitis, greatly swollen, had not ruptured, but with a large amount of adhesions around it. The appendix was removed and patient made good quick recovery. I had

another case which had an abscess which included the ovary, the tube and the appendix. I could not tell where one began and the other ended; it was one great big abscess. Neither history past nor present threw any light on whether it started in appendix or uterine appendages. I had another case under my care, an undoubted case of appendicitis; she refused operation; was three months before getting about; went on for two years; then had an attack of acute salpingitis of right side, subsequently extended to left side with persistent pain about McBurney's point. At the operation found very thick and enlarged left tube, a tubo-ovarian abscess of right side with a thick club-shaped appendix adhering firmly to but did not communicate with the abscess sac.

ALONZO BOOTHBY, M.D.: I shall not take your time. There was one case that I had more positive than any other; but I got my paper as long as I wanted to make it; I will just refer to the case. It was where the appendix and the right tube were adherent, and there was an opening through from the appendix into the tube; and there had been for years a discharge that we had reason to believe came through from the appendix, and that the inflammation was kept up from that. Dr. Bailey had added his word to the impression I intended to give you; and that is, that we ought to study this question and get reports for next year. Now it is not possible to draw a conclusion from one case, or from several cases, but from a great many cases, by different observers, we shall be able to come at some conclusion. That they do exist together frequently, as I said, is true; that they are of separate origin—the inflammation is of separate origin in a good many cases—is, I believe, true; that they have some connection with one another in a number of cases, I believe, is true. I hope we shall be able to settle that point.

Tuberculosis as a Factor in Pelvic Diseases.

By E. Stillman Bailey, M.D.

Unless too great restrictions are placed upon the limits of this paper, the organs within the female pelvis should be studied together with their outlets and with reference to their intimate association with corresponding tissues in the abdominal cavity. This rapidly developing subject presents to the student of the present day features of intense interest. The forms of tubercles exist here as in the other parts of the body. The repetition of their clinical significance is uncalled for here. The real question in my paper is, to what extent does the tubercle bacillus become a factor in the production of diseases in the pelvic organs? A mere statistical answer to this question is impossible and to my mind quite unnecessary since, in a special way, every case of diseased pelvis presents a suspicion that it may be of tubercular origin. Not that these cases are so common, but all forms of pelvic diseases can be simulated by this one disease.

If it is a crime to permit obscure pathology to be buried without its post-mortem investigation, so I hold it to be a sin of omission to toss aside the pathology of the operating-room without knowing its cause. When all physicians represented in the specialty of gynecology will report gross and special pathology of all their cases, then the relative or even actual frequency of the diseases of tuberculosis will have a more practical significance. One thought more: the diagnosis of this disease is a positive one, and whatever the macroscopic appearance may be, the actual seeing the bacillus or its tubercle through the lens of a microscope places the entire study on a positive foundation. The day of questioning this has passed, and while the tubercle bacillus is elusive, the discovery of a single one in a microscopic field is the signal of danger to the patient, for at that moment she is known to have a malignant disease.

My subject is so vast that I can only glance at a portion of the problems it presents. The anatomy of the pelvis viewed casually presents the organs of generation, the vesical and rectal dilatations and their outlets. A varied anatomical proposition in which mucous,

serous and muscular surfaces are involved. The bacilli are found in about equal numbers in the mucous and serous tissues, so that the habitat is well distributed and a more or less uniform growth can be expected. Possibly the serous surfaces of the uterus, tubes and pelvic peritoneum are favorite places for rapid development and furnish most distinct stages of this pathology. The muscularis is sometimes invaded and the mucous surfaces do not always escape, though the excretory nature makes it not so easy a habitat.

I was recently told by a student in clinical diagnosis that, in the microscopical examination of dejections from the bowels, sometimes the tubercle bacilli were found. They are introduced with the food or drink or by migration. Their presence at all in the intestinal tract is the point here, and this leads to the proposition that inasmuch as a large number of patients consulting gynecologists are chronically or habitually constipated and the mucosa of the rectum is either anemic or inflamed, the bacilli find a habitat that is congenial and they take possession and multiply.

My first general proposition is, one factor to be remembered is that there is a possibility in every case of proctitis, acute or chronic, that the disease may become tubercular. The more chronic the case the more the danger. It does not follow that these cases are tubercular, but in the chronic constipations that do not yield to treatment with the general dyscrasia of phthisis, a local infection is possible and should be carried constantly in mind. I hold this to be a great factor in pelvic inflammations, since sixty-five per cent. of my clinic cases report chronic constipation; and in one-third of all pelvic inflammatory diseases the rectum is involved in some abnormal process.

Fistula-in-ano are to be studied in every instance, as possibly tubercular, and sometimes the cause of the acute rectal ulcer with destruction of tissue extending to the anal margin is of a distinctly tubercular character. It may be confounded with cancer of the rectum, as this mistake has happened and can be guarded against only by the intelligent use of the microscope.

I would be glad to introduce here the figures as to frequency of tuberculosis of the rectum, but again I am confronted with the fact that the recorded cases are not proportionate in practise to those that come to us through the report of autopsies and in this often-neglected organ in the pelvis a certain proportion of cases are of the unsuspected variety of pathological conditions arising out of a tubercular infection.

Rectovaginal fistulæ and perirectal abscesses, also recto-uterine

fistulæ should be carried in mind as possibly having a tubercular origin in a similarly diseased peritoneum or bowel with or without subsequent perforation.

The genital and urinary tracts are two separate systems in women. They are one in the male. The recorded relative frequency of tuberculosis in genito-urinary tract is one woman to three men.

The vesical diseases in women are distressing. This proposition needs no elaboration.

My second proposition is that in vesical diseases cystoscopic work is demanded, and that when the mucous membrane of the bladder is inflamed irregularly in patches, presenting elevations or granulations, or ulcerations with molecular destruction and débris in the urine, with favorable alkaline reaction, these cases are almost certain to be tubercular and are either of local infection or the disease has extended from the kidney or ureter.

As a factor of disease within the pelvis I feel that too great stress cannot be placed upon more thorough diagnosis of the bladder diseases. I speak advisedly that these bladders are frequently tubercular, and were my time not so limited I could narrate cases seen recently that would help substantiate this general proposition.

The advanced method of irrigating the bladder without the introduction of instruments, I refer to hydrostatic pressure, offers much in the relief of these cases. The gradual enlargement of the contracted bladder-walls is very grateful to the patients and disturbs pathological processes very radically.

Tuberculosis may affect any portion of the genital tract in women. The order of frequency is as follows: peritoneum, Fallopian tubes, uterus, ovaries, vagina, cervix and vulva. The tubes are most frequently involved and become the habitat of the bacillus. The pity here is that they are so hidden and so safe from molestation until through the acute process they have developed masses that call for operative interference. The uterus is involved not infrequently. In work that I have recently been doing in pathology of uterine scrapings I am warranted in repeating the remark of experts in this line: "We do not regard tuberculosis of the endometrium as so very uncommon." Again, I feel that actual figures are desirable but impracticable here; but the cases in which the tubercular deposits exist are frequently found three or four in groups of examinations made, and then possibly one hundred and fifty cases of curettements will be examined and the tubercles or bacillus will not be in evidence.

Tuberculosis of the uterus is familiar to those who make autop-

sies on phthisical women. It is nearly always secondary to tuberculosis elsewhere in the body and is usually associated with tuberculosis of the tubes.

This is the view expressed in the paper of J. Whitridge Williams of *Johns Hopkins Hospital Reports* and published in Vol. III., 1894, p. 92. I find it the common opinion that the origin of the disease in the uterus is from the extension from the Fallopian tube. This is the opinion in the literature, and in talking with pathologists who have worked along these lines the idea seems fixed that the disease of the body to the cervix is from an extension through the tubes. The points of special interest here are that the disease is at first limited to the endometrium, and it is only at a later period of the disease that the muscular tissues become involved, that the varieties exist as the miliary tubercle, with or without the formation of ulcerations, and become chronic diffuse and chronic fibrous.

"Chronic diffuse tuberculosis is the most frequent and is the form met usually at autopsies and in what is usually understood by tuberculosis of the uterus. In this variety the entire cavity of the body of the uterus is filled with caseous material which forms a thicker or thinner coating over its inner surface as the case may be. On scraping it off with the back of a knife, one sees that the subjacent tissue is very jagged and irregular, and studded with tubercles in all stages of development from the typical grayish serous transparent nodule to the irregularly shaped ulcer. In most cases this process is sharply limited by the internal os and the cervical canal is perfectly normal."

The fact of the discharge of the mucosa in the processes of menstruation with its returning rhythm often dislodges the bacillus and washes it away, and in such cases as are suspicious of phthisis in other portions of the body the amenorrhea favors the local development of the germs. No more interesting field to-day presents itself for investigation than the microscopic examination of all uterine scrapings in every case of curettement. As a diagnostic feature it is most excellent, and is being demanded of all who would use every possible means of understanding genital diseases. It is rich in its returns in leading up to correct genital pathology. The ovaries are always secondarily affected. The cervix escapes frequent infection from its constantly being bathed with its glandular secretions and its histological resistance to infectious attacks.

The vagina is susceptible to tuberculosis by direct infection. Filthy examining instruments, syringe points, etc., are known causes. Coitus is in all probability a direct cause of a local tubercular affec-

tion. I may generalize here by saying that by the examination of husbands, the causes of genital tuberculosis in the wife may be traced; at least this method is being used and it commends itself as a most favorable one.

Had I time I could specialize by the recital of cases that go to show how genital tuberculosis has been and can be conveyed. This practical hint is of importance to those seeking advice concerning the possible sources of tuberculus infection, through marriage.

The tubercular diseases of the vulva have hardly begun to be described. The so-called lupus are sometimes at least tubercular. Cases have been called elephantiasis that on finer section have proven tubercular. Our text-books are often silent and the clinical reports are wanting, yet the laboratories are finding tubercular causes for labial tumors, ulcers of the introitus and swellings that have passed in their gross pathology as glandular swellings, syphilitic ulcer or nodule of gonorrheal origin. Here again the microscope is the impartial judge.

The superior one-third of the vagina and portions about the cervical folds are more frequently found tubercular than the inferior or middle third.

I must abandon altogether description of the pelvic peritoneum as a factor in the pelvic diseases. It is found post-mortem to exist in about seventy per cent. of all the cases having genital tuberculosis. It probably is the source of direct extension of the disease to other pelvic organs. Its study would extend my paper to the size of a book. It is of the highest importance to mention this pelvic tissue as oftenest tubercular. Its seat of invasion is the Douglas cul-de-sac. From this area it seems to invade upward.

The summary as brief as I can make it is:

That genital tuberculosis can exist at any age from childhood to old age.

It is usually secondary to tuberculosis elsewhere in the body.

Seven years ago it was estimated that every twelfth case of adherent tubes and ovaries removed for inflammatory diseases were tubercular. From research I think the estimate now should be materially increased.

There may be direct infection, though it is difficult to exclude the theory of primary blood infection.

Symptoms of all grades and stages are common with tuberculosis of other portions of the body. Genital tuberculosis simply localizes the areas.

Symptoms of genital tuberculosis of all grades vary from simple

endometritis and salpingitis and peritonitis to the most severe forms of pelvic abscess.

The symptoms are in common with phthisis.

The coexistence of tubo-ovarian masses with phthisis should arouse suspicion at once as to the tubercular nature of the pelvic disease.

Ulcers of the vagina cervix and rectum should receive investigation and require excision if isolated and have proven intractable to treatment.

Tuberculosis of the uterus may be arrested by curettement but hysterectomy is advised.

Tubercular tubes and ovaries should be removed if found early enough.

Tubercular peritonitis is sometimes cured by abdominal section.

Tubercular peritonitis does not preclude operative measures.

The Surgical Treatment of Pelvic Inflammation.

By George R. Southwick, M.D.

The surgical treatment of pelvic inflammation is essentially the treatment of pus in the pelvis. Adhesions following pelvic peritonitis are an exception to the rule. The principles of treatment of these exceptions are generally recognized and give excellent results. The ventral incision with separation of the adhesions and suspension of the uterus or ovaries is a safe and simple operation.

The name "pelvic inflammation" as here used includes its many subdivisions from a pathological standpoint, but from the surgical point of view the various subdivisions are only forms of one disease subject to the same principles of treatment. Pelvic peritonitis and pelvic cellulitis are closely associated, but the symptoms and clinical features of either one predominate to such a degree that a practical distinction can be drawn between intra-peritoneal inflammation, including inflammation of the tubes and ovaries, and extra-peritoneal inflammation or true pelvic cellulitis.

Extra-peritoneal inflammation is rarely seen apart from puerpural conditions even by surgeons of considerable experience. It differs materially from intra-peritoneal inflammation in that suppuration is very common; the pus is less likely to become circumscribed spreading early and rapidly forming numerous pockets and sinuses. It demands, therefore, immediate vaginal incision and thorough drainage. The finger is the best dissector in following up tortuous sinuses to the innermost pocket of pus and the ordinary rubber tube is the most easily changed and is the most effective means for irrigation and drainage. The French method of vaginal hysterectomy, using clamps which are removed in forty-eight hours, and leaving an open vaginal vault packed with gauze may be necessary to secure adequate drainage. The American method of applying a permanent ligature and closing the vaginal vault does not give as good drainage to the cellular tissue.

Collections of pus pointing or fluctuating in the vaginal vault are readily opened and drained by vaginal incision. This is a safer

procedure than abdominal section and involves no mutilation of the patient. The trocar used by Landau is a simple instrument for opening pelvic abscesses. It is a combination of a trocar and dressing-forceps. The instruments is thrust into the abscess, the trocar is withdrawn and the opening is freely dilated by expanding the forceps. Irrigation, drainage and the gauze pack are the means commonly employed after incision to cure the patient.

The great majority of cases of pelvic inflammation are intraperitoneal. The treatment is essentially the surgery of the tubes and ovaries. Conservative surgery should receive here the most thoughtful consideration. It means essentially the restriction of the operation to the removal of tissue which has undergone such serious organic changes or has become so infected as to threaten the life of the patient and to be incurable or unable to perform its normal functions. Accurate knowledge of the pathology of the tubes and ovaries becomes of immense importance in these cases and yet there are some operators whose training has been in the amphitheater without previous work in the laboratory.

Few operations have been so much abused as that for removal of the ovaries for follicular ovaritis under the impression that the retention cysts were true ovarian cysts in an early stage of development. The two classes of cysts are entirely separate with distinct pathological conditions. Resection of the ovary or cauterizing the walls of the retention systs in the ovary will accomplish the purpose of the operation and the patient will have an ovary which may be crippled but is still able to perform all its functions. The ovary deserves to be classed among the ductless glands, the functions of which are not fully understood, but their presence is necessary for the best conditions of health. A minute portion of ovarian tissue may contain enough healthy follicles for pregnancy to occur or to preserve the patient from the discomforts of a premature climacteric. It has been demonstrated that it is not absolutely necessary for the ovary to be connected with the corresponding tube for conception to occur and that the ovum may enter the uterus through the opposite tube. If, therefore, the tube must be removed, leave as much of the ovary as the pathological conditions will allow. The importance of the ovary to the organism is shown in the clinical histories of patients after hysterectomy. Those who have some ovarian tissue left are far more comfortable and in better condition than those who have none. It might be called a surgical maxim to never remove entirely the ovaries if it can be avoided.

The surgical treatment of inflamed Fallopian tubes comprises

a large variety of procedures from puncture or incision of the vagina for drainage to complete removal of the uterus, tubes and ovaries. Various attempts have been made to resect the tube, to drain it with or without vaginal section, to establish communication with the uterine cavity, or to make a new fimbriated extremity. Numerous instances of such surgical millinery have been reported, but the subsequent clinical histories of such cases have been wanting. The accumulated experiences of many operators show that a tube injured by extensive organic changes in consequence of suppuration can not be reasonably expected to recover its integrity, and it may become a serious menace to the health and welfare of the patient.

The surgical treatment of acute inflammation of the tubes or ovaries may be fairly called the temptation of skill. True conservatism demands delay in the treatment of the majority of acute cases. It is not right to assume that every swollen tube in an acutely inflamed condition contains pus, if gonorrhea can be excluded. Very many of these cases of acute simple inflammation can be cured without operation and as time goes on the micro-organisms perish and there is less danger of infecting the patient. Meantime Nature throws out a protecting wall of lymph, the pus is encapsulated and the peritoneum protected. The writer is not yet convinced that the mere presence of a little pus always demands a serious operation and that recovery is impossible without it. Recovery under such circumstances might not be perfect but it would bear very favorable comparison with a post-operative recovery. If it were a rule to treat *properly* all but the most urgent cases of salpingitis for three months before operating, many of them would be so much better as to warrant further treatment rather than an operation. Recovery from an operation may imply the cure of the patient, but the general practitioner who cares for the patient afterward appreciates the fact that the patient may be greatly benefited by an operation, but the more remote results of chronic inflammation are not always relieved by it. The tubes are so distended with pus in some cases of gonorrheal origin as to fill the pelvis and the patient shows signs of toxemia. These cases require an immediate operation. Vaginal incision and drainage have some advantage as regards safety and have the great merit of not mutilating the patient, who is likely to be a young woman.

Delay in the surgical treatment of chronic salpingitis which has been *properly treated* without benefit is a waste of time. It is no longer a question of operation but of method, by ligature or clamp,

by the ventral or vaginal incision, by conservative or radical methods.

It will require a very considerable amount of evidence to induce the profession to abandon a sterile catgut ligature in favor of a combined electric cautery and clamp or the angiotribe. The latter may be a practical though a clumsy instrument to use, but the surgeon will sleep better when he knows the divided arteries of his patient are securely tied. The choice of operation by the vaginal or abdominal route depends largely on the necessity of a radical operation and the skill of the operator. The vaginal route is technically more difficult than the abdominal operation in the Trendelenburg position, where the field of operation is more accessible to touch and sight than by the former method. Extensive bilateral suppuration of the appendages with a history of severe chronic pelvic peritonitis calls for a vaginal hysterectomy and removal of the tubes as the elective operation with subsequent drainage if pus pockets remain. There is less traumatism to the peritoneal cavity than by the abdominal route and very little shock to the patient. Unilateral inflammation should be treated by removal of the tube through a ventral incision which gives a better field for conservative surgery. Many an operator has removed one pus tube leaving the other in a comparatively healthy condition and had to repeat the operation on the second tube a few months later. Such an experience has led to the dictum that both tubes should be removed at the same time, ignoring the fact that treatment of the uterine cavity will do much to prevent the second operation. Is it not far better to perform a second operation occasionally and to preserve the generative capacity of many of our patients than to rob them irreparably of that function which is the purpose of their creation?

Does conservative surgery mean that the body of the uterus should be left intact after the removal by abdominal section of tubes filled with pus? Experience shows that in such cases the uterine cavity continues to infect the pelvic peritoneum and removal of the corpus uteri is for the welfare of the patient. Art cannot be expected to improve on nature and a supracervical amputation of the corpus uteri leaves a better vaginal vault and ligamentous attachment than complete vaginal hysterectomy.

The surgical treatment of pelvic inflammation can hardly be dismissed without a brief allusion to a little of the technique. Rubber gloves for the operator and his assistants are a valuable contribution to the perfection of asepsis. There are some cases of old chronic suppuration of the appendages with extensive and firm adhesions in the bottom of the pelvis. The fingers of the operator which dis-

sect up such a tube or ovary should not be covered. The utmost sensitiveness of touch to dissect and follow the line of cleavage is necessary and if it is blunted ever so little a small part of diseased or infected tissue may be left which will cost the patient her life.

Sufficient attention is not always given to the importance of an expert etherizer which is next to that of the operator himself. Everybody or anybody cannot give ether well, and in a prolonged and delicate operation the expert administration of ether is the saving of the patient more often than is commonly thought. Shocks, heart failure, bronchitis, pneumonia, nephritis, suppression of urine, etc., is too often only another name for the excessive or injudicious use of ether.

Drainage of the pelvis through a ventral incision is a misnomer and few operators depend upon it for more than forty-eight hours after the operation. If the peritoneum is infected with pus at the time of the operation, very thorough and prolonged irrigation with four or five gallons of warm sterile salt solution is advisable. Then fill the abdomen with all the salt solution it will hold. Sew up the abdomen tight and elevate the foot of the bed for drainage through the lymphatics near the diaphragm. The salt solution serves the double purpose of dilution and removal of the toxin, and a fairly healthy peritoneum can safely take care of a few ordinary pathogenic organisms. A small amount of salt solution will dissolve the exudate on denuded surfaces, float the intestine and tend to prevent adhesions. It is a powerful stimulant for shock and quickly replaces the loss of blood.

RÉSUMÉ.

Adhesions requiring operation are treated by ventral incision, separation and suspension of the displaced organs.

Extraperitoneal inflammation, as pelvic cellulitis, requires early incision and drainage before the pus burrows and infects the cellular tissue. Hysterectomy after the French method may be necessary for chronic cases.

The surgery of intraperitoneal inflammation should be eminently conservative: first, delay operation in acute cases unless much pus and signs of toxemia are present; second, chronic salpingitis or ovaritis should be *properly* treated first, if not urgent, with the hope of avoiding operation; third, remove only tissue so diseased or infected as to be incurable or dangerous to the patient; fourth, leave all ovarian tissue possible.

Chronic unilateral suppuration of the Fallopian tube calls for abdominal section in the Trendelenburg position.

Chronic bilateral suppuration of the tubes and ovaries calls for removal of the tubes, ovaries and body of the uterus by abdominal section. It may be treated also by vaginal section and the latter operation is to be preferred if the case is of long standing and there are extensive adhesions.

The advantages of abdominal section are: a better field for conservative surgery, sight and touch, and by leaving the cervix uteri the length of the vagina and the vaginal vault are preserved.

The advantages of vaginal section are better drainage, less shock to the patient, early convalescence and less danger from hernia.

Present Status of Gynecology in the Homœopathic School.

By J. J. Thompson, M.D.

In listening to the papers which have been presented by members of this bureau, who, we trust, are representative gynecologists from widely separated sections of the country, you have already been able to determine the attitude of our school toward one of the most important subjects pertaining to gynecology. It will be seen by these papers that we as a school are not wedded to any one line of practice to the exclusion of all others; and that while we may have extremists on the one hand who hope to cure every possible lesion with the indicated remedy, and on the other hand other extremists who use the knife on all possible occasions, yet on the whole we pride ourselves on having among us a large proportion of level-headed men and women who "take the case" in a logical way and treat it according to the best "indications" whether medical or surgical.

At the present time Homœopathy has no reason to feel ashamed of the progress of its gynecologists. In the department of medical disease of women she has in her ranks men who have spent years of intelligent and painstaking study, in searching out the remedies most directly applicable to the lesions found in the female genital organs. The result of this study is manifest not only in our own school of practise but has extended to the allopathic and eclectic schools, so that now most of the polychrests which for years have been justly popular among the Homœopathic practitioners are now found on the shelves of the better drug stores of the land, and although when dispensed in the crude manner of the dominant school the results are not so favorable as when prescribed according to the clear-cut indications of our school. Nevertheless, their adoption by the other schools indicates that our influence in this direction is more far-reaching than these schools would care to admit.

Surgically we also have reason to feel satisfied with the progress of our school. It is no longer necessary for our students to apply at the doors of allopathic colleges to learn the best surgical pro-

cedures in gynecology. That many of our recent graduates and some older practitioners do so should not be construed as a reflection against the ability of our teachers or the facilities of our colleges to teach this branch successfully; but rather illustrates the desire of our men and women to learn by observation and comparison the latest and best methods of surgery known to all schools.

Surgical gynecology justly holds an important place in the Homœopathic school, and when applied in a conservative and dignified way it need not detract from the glory of Homœopathy; but on the contrary it adds to and rounds out the law of similars in a manner which cannot but receive the commendation of the most ardent believer in the great law upon which our school is founded.

The line of demarcation between the gynecological surgeon, the general practitioner and the one who makes medical diseases of women a specialty is more or less distinct, and yet each of these have come to look upon the others not as antagonists but as helpers and advisors. It is the belief of your chairman that the profession at large have heeded the remarks of one of our departed workers which were presented to this body two years ago, when he said: "If the general physician had been less narrow and inelastic in his theories and the specialist more thorough and conscientious in his practise, the resulting mischief would have been averted. Let us remember that in so far as the interest of the patient and of the profession are concerned, there is no choice between a medical crank and a crazy specialist."

In closing the masterly paper from which the above is quoted he made the following prophesy which is already being fulfilled. "There can be little doubt," said he, "that with judgment and experience the profession will finally arrive at a correct estimate of its resources whether they be medical, surgical or miscellaneous."

There are no doubt some in our school who pose as gynecological specialists, but who have neither the diligence to prescribe intelligently nor the experience which would enable them to operate successfully. Therefore, they go about using medicated tampons and astringent suppositories and douches to the detriment of the patient and the injury of Homœopathy.

In the opinion of your chairman this sort of gynecological tinkering is fast becoming obsolete in our schools of practise and is also growing in disfavor among the best informed of other schools.

A prominent gynecologist of the allopathic school, Dr. E. C. Dudley of Chicago, in a recent paper on this subject says: "A very large proportion of the women who formerly crowded the reception

rooms of the gynecologist for intra-uterine and other local treatments should be treated by medical or surgical means or by both. If they do not present well-defined indications for surgical treatment they should in the vast majority of cases be referred to the field of internal medicine. The legitimate field for the routine topical application in gynecology is past."

Another feature of the present status of gynecology in the Homœopathic school is the lessened frequency of surgical interference in the treatment of nervous symptoms the so-called reflex neuroses. There is no doubt that these nervous phenomena are often caused by conditions which are best and most quickly relieved by surgical work, but the indications for such work have come to be better known and consequently there is more conservatism in its application.

I cannot do better in this connection than to repeat the words of your chairman at the Buffalo session when he said: "That clear and definite evidence should be had, if possible, connecting the neurosis with the sexual function, before an operation is justifiable. Without such evidence no man has a right to subject his patient to a critical operation before all conservative resources including medication by a 'therapeutic specialist' have been exhausted. I used the term advisedly, for if we as gynecologists insist that cases shall be turned over to us before the local affection has so far advanced as to prejudice the outcome, it is no more than right for us to give the patient, where operative interference is not imperative, the benefit of remedies selected by men who stand head and shoulders above us in their knowledge of drug action."

Such advice coming from such a source could not fail to have an effect, and it is with pleasure that your present chairman notes the result, supplemented as it has been by similar advice from other leading gynecologists of our school. The tendency of gynecology to become a purely surgical specialty is commented upon by a leading gynecologist of the dominant school, Dr. Henry P. Newman, in a recent paper which presents the subject in such a forcible manner that I cannot refrain from producing it here. "The tendency of gynecologists," said he, "to enter surgery is to be deprecated. It narrows his opportunities. He had better stay attached to obstetrics and pediatrics. A woman's generative organs should not be doomed because she has needed to visit a gynecologist. A good diagnostician must know as much about woman as about disease; as much about environment and social and domestic relations as about pelvic lesions. As specialists we must recognize and exercise the important interests in a medical science which will prevent rather

than cure a disease. As we know what can be acquired may be prevented, hence we as specialists should lead in the reform of those conditions which are detrimental to the health of woman."

Another feature of the gynecological practise of to-day is the waning use of the sharp curette. In the opinion of your chairman this instrument has been much misused and has been the cause of much unnecessary suffering and not a few deaths. Its use is still advised in some cases with benefit but happily its promiscuous use is no longer recommended by leading gynecologists. In fact, it is inveighed against in most hearty terms by the leaders of all schools of practise.

Your chairman agrees with Dr. Byron Robinson when he says that "curettement is the cause of more immediate peritoneal sections than any other operation. A gynecologist of reputation will be able to make a fair living from disasters following the use of sharp currettage." And again when he says: "Immediately after abortion, miscarriage, labor and infected uterus, the sharp curette has no place. Placental débris is better removed by the finger or a dull curette."

As to packing of the uterus after dilatation and curettement your chairman believes he sees a lessened tendency to its use. There have been a considerable number of deaths reported from various sections of the country following the use of intra-uterine packing and the procedure is becoming deservedly unpopular with many gynecologists. The benefits which seem to be derived from this procedure are no doubt largely due to the surgical work and the packing adds an element of danger without adequate benefit.

Vaginal hysterectomies which for a time threatened to become a fad are apparently settling to their proper place in the gynecological field. The new method of removing the uterus and appendages through the vagina, having originated in the Homœopathic school, it is not surprising that many Homœopathic gynecologists should have sought every opportunity to put the method in practise. No doubt many uteri have been sacrificed which might have been spared and the symptoms which led to their removal might have been cured by milder and better means. Your chairman believes that with the more conservative gynecologists of our school at the present time the uterus is seldom sacrificed except when the seat of malignant or troublesome fibroid growth, and even then the vaginal route is adopted only when it is evident that this method affords the easier way of removal.

The vaginal route for exploration of the pelvis and removal of

diseased ovary and tubes, when adhesions are not too firm, and for evacuation of pus cavities when situated near the vaginal vault, has become justly popular; but like the vaginal hysterectomy the opinion seems to prevail that this method should not be adopted to the exclusion of the abdominal route when the latter seems more practical.

Concerning the removal of tubes and ovaries there is apparently a growing conviction that too many appendages have been removed in the past and scientific gynecologists are inclined to save them except when the seat of grave lesions.

It will be noticed that in the foregoing the opinions of members of the dominant school have been quoted somewhat at length. In the opinion of your chairman we can often better form an opinion as to our position by comparison with leading members of other schools.

Let us hope that there may be none in our ranks who are following the methods of old-school practitioners so closely that they may not be able to overcome their inertia when the leaders of that school call a halt, but on the contrary let our gynecologists in the future as in the past be leaders in conservatism as well as in scientific treatment of gynecological cases.

In conclusion allow us to call your attention to the able articles on gynecological topics which have appeared in the Homœopathic press during the past year. In our opinion these writings will compare favorably with those of any school of practise in this or any other country and let us hope that in the future our members may continue to report their cases and present their ideas as ably as in the past.

717 Marshall Field Bldg., Chicago.

Symptomatology and Treatment of Pelvic Inflammation.

By James W. Ward, M.D.

In opening the subject of symptomatology of pelvic inflammation it is impossible to evade the consideration of the etiology and pathology of the affection.

The relation of these divisions of the subject is seen to be closely interwoven and without a just estimate of the importance of the one, the correct balance is lost between them all. It is generally important in discussing the symptomatology, to accept a natural division of pelvic inflammation depending upon the source from which it takes its origin.

It will, therefore, be needful that I should accept the present accepted classification of:

I. Parametritis or pelvic cellulitis.

II. Perimetritis or pelvic peritonitis.

There appears at the present time a tendency to readjust our conception of the pathology of the female pelvis and to study on broader and more scientific lines the relation of intrapelvic inflammatory conditions to radical and aggressive treatment.

It was accepted, as settled, not so very long ago, that all relating to inflammation within the "dark room of the pelvis" was clearly comprehended and its ultimate results and pathological limitations well defined. Our knowledge of pelvic anatomy is not measured by time but by facts and the logical conclusions of minds trained to observe will necessarily follow unbiased, the evidence presented.

The pelvic surgeon disposed of and nearly drove out of literature the term pelvic cellulitis. He became intolerant of the very term cellular inflammation. Peritoneal and tubal diseases became the one and ever-present agent of pelvic inflammation.

Matthews Duncan, before the appearance of the pelvic surgeon, had largely in his work on "Pelvic Paraperimetritis" cut the way for a clearer view of the subject. It awaited the abdominal surgeon to clear up the mystery. It was the natural revolt of the man of facts against the tyranny of the man of theory.

It was through a strange inversion of logic that an exchange of theory and facts has made clear the pathway to an intelligent analysis of morbid nature and has given an established basis of belief in pelvic inflammation.

In the reaction has been revived the old idea of pelvic cellulitis. It is the old theory seen with the searchlight of mature and better-observed facts. Now it is a well-placed and scientific expression. We definitely know what it is, and what it is not.

Defined through limitations it is a positive advance and at once broadens our conception of pelvic inflammation and makes clear the symptomatology of pelvic disease. There is now no conflict between pelvic cellulitis and pelvic peritonitis. I am, therefore, prepared to face the differentiation of these subjects, two conditions closely allied but apart in origin, separated in symptomatology and demanding in a measure distinct treatment.

Let me begin by saying that pelvic peritonitis is a true pelvic disease while pelvic cellulitis is an affection both within and without the true pelvic cavity. From clinical experience, localized inflammation of the iliac fossa belong to the parturient condition or follows delayed miscarriage. Where some disease of the generative system precedes the development of intrapelvic inflammation it is presumptive of pelvic peritonitis.

In case of direct infection through the vaginal canal, the invasion of infection is an ascending one and one in which the tubal involvement is primary to the peritonitis, the symptoms are then clear. The initial symptoms are so similar that no diagnosis can be ventured at this stage. Whenever the peritoneum becomes involved the behavior is that of a vital organ. Its reaction is prompt and intense. Cellular tissue inflammation lacks in this pronounced reaction.

Pelvic peritonitis more often than otherwise is ushered in by a severe chill with an equally acute febrile state which is rarely found in cellulitis. It must be remembered that the ordinary expression of inflammation—chill, fever, pain and swelling—may be inconstant, variable or entirely absent when the serosæ are involved. These are serum tissues and endowed with peculiar and extraordinary abilities. "The rapid production and collection of serum in the peritoneal cavity when abnormally stimulated may explain to some extent the vagueness and uncertainty frequently encountered in peritonitis." On the other hand it is equally interesting to note the recognized rapidity of peritoneal absorption, amounting in thirty minutes during life to as high as ten per cent. of body weight.

There often is a wide variety in the expression of pelvic inflammation both acute and chronic and we can therefore only outline some general characteristics.

I cannot agree with Bermutz, who makes pains similar in situation and radiations equally influenced by motion and pressure, for in peritonitis it is acute, piercing in character, while in cellulitis it is dull, pulsating, like that of the beginning of an abscess. It is generally conceded that an infection that reaches the peritoneum through the vaginal route will cause peritonitis, while the bacterial invasion through lesions in the soft parts will cause lymphangitis and cellulitis. It is thus plain that pelvic infection during the lying-in period may allow the true lesion to remain masked by the puerpural fever and the symptoms of cellulitis and pelvic peritonitis become difficult of differentiation.

The greater frequency of pelvic peritonitis should throw the burden of proof upon the possible cellulitis. The mask is soon removed and the symptoms clearly point to the character and location of the trouble. The extrapelvic character of pelvic cellulitis is further manifested as the involvement extends into the cellular tissues of the abdomen and along the psoas and iliacus muscles.

In both diseases we have localization of tumefaction, when the mass formed by the peritonitis is palpably above the pubis, it is late in the attack and generally implies repeated relapses. It never extends toward the iliac fossa, while in cellulitis these extensions laterally are clearly and early defined. In phlegmon or cellulitis the system of swelling is confined close behind the pubis and early appreciable in the hypogastrium.

Suppuration is common to both forms of pelvic inflammation but not necessarily must follow in every case. It is a matter of common experience to the pelvic surgeon that, notwithstanding extensive inflammation, frequent relapses and adhesions of adjoining tissues, that pus is not present, although the symptoms point to abscess formation. Pain, heat and tenderness as intrapelvic symptoms are common to both kinds of pelvic inflammation. The intrapelvic temperature is pronounced and out of proportion to the general pyrexia. The symptoms of pus formation are by no means constant.

I know of no constant symptom of pus formation more to be relied upon than the continued pyrexia, and while this is by no means pathogenic, it far exceeds in constancy any other symptom. The chill may be absent, pain may be variable, tympanitis often unknown except in extension toward the colon, and sweating found

but slightly suggestive. The persistency more than all else suggests that termination of the pathological process. When the deeper iliac region is involved in cellulitis there is a retraction of the thigh, which is a position distinct from any form of pelvic peritonitis.

When the mass of plastic material forces the uterus upward or forward, so as to be more readily felt through the hypogastrium, it forms a retro-uterine swelling which is never found in cellulitis. The sense of elasticity or vague fluctuation in the suppurative stage of a pelvic peritonitis, differs strikingly from the firmness imparted on palpating a cellulitic deposit.

Bermutz describes: "The swelling of the phlegmon, which is dull only on very superficial percussion, has its upper border so clearly defined that when extreme sensibility has passed away we can push the abdominal wall behind it as it were. In pelvic peritonitis, on the contrary, it is not parietal; it rises out of the pubis, escapes the middle line, and carries the fundus uteri forward and to the healthy side." Vaginal palpation notes the symptom of uniform growth of the mass, while in pelvic peritonitis the advance is irregular, due to recurrent relapses.

It is interesting to note that while a mass is common as the result of pelvic inflammation, that of cellulitis advances along the crest of the ilium and possibly along the upper portion of the broad ligament to the central region, while that of pelvic peritonitis rises out of the pelvis in the middle hypogastrium. It is well known that we may have extensive cellulitis of the psoas or iliacus with a small or no vaginal mass.

The symptoms of pelvic tenesmus, or of rectal pain or urging, of vesical pain and irritability are common to all forms of pelvic inflammation and functional disturbances, yet suggestive of no distinct type. Finally, we must concede that pelvic peritonitis while an extension of primary pathology is, nevertheless, distinct in some of its symptomatic evidences of the closely allied condition of parametritis.

Treatment.—The old idea of idiopathic production of pelvic inflammations has been well-nigh abandoned and we have cause to regard it in nearly every case as secondary to an infection of some sort. This should not, however, cast more than moderating influence over the medicinal treatment. It should be acknowledged that some cases are self-limited and spontaneous recoveries are by no means rare. If this be true, then intelligent and timely remedial treatment, apart from surgical interference, will control many such inflammatory lesions.

Granting that many cases require surgical care, yet in the deferring of that care until the acute symptoms have subsided magnifies the importance of the indicated remedy. All will agree that if there is no pus certainly medical care will meet all the requirements, and it is well known that many cases never develop into this suppurative stage, the importance of the correct symptomatology leading to the proper remedy.

The chronicity of some types of pelvic involvement with its multiform expression and so full of danger is the natural course that every resource of the physician may be taxed to the utmost in combating it. It, therefore, may be from the beginning a medical case or conjointly medical and surgical, and if surgical the aid of our remedies strengthen the surgeon's position in its defense.

Adjuvants.—That which must accompany all rational treatment of pelvic inflammation is *rest* in bed. This must be absolute and be prolonged beyond the subsidance of all temperature and pelvic tenderness.

Hydrotherapy has a strong place in the treatment of both acute and subacute pelvic engorgement. Hot water corrugates the vaginal mucous membrane and drives the blood out of the pelvic veins, as is evident by the blanched appearance of the mucous membrane, relieving congestion. The repetition of the irrigation thus maintains the tone of the pelvic vesicles and by stimulating absorption and removing exudation furthers recovery. All vaginal irrigation should be administered with the patient lying recumbent, thereby distending the vagina by the stream. The temperature of the water should vary from 100 degrees F. to 120 degrees F., beginning with 100 and gradually elevating the temperature until the patient complains of the heat.

The hips should be elevated and at least a gallon should be employed at a time. The perineum should be anointed and care taken to avoid metal tubes which produce painful heating of the labiæ. The best results can only be obtained by the best technique. The usual method of self-irrigation is faulty and should be given with assistance where possible. Douches are often abused and a warning in their universal employment is timely. The frequent repetition of such injections in conditions not requiring them must exhaust the contractile power of the blood-vessels, and in addition by removing the natural secretions of the vaginal mucous membrane maintains a process which counteracts the natural tendency to recovery, and that which is of timely benefit becomes a material harm.

Topical vaginal applications find no place during the acute stage of pelvic inflammation. Their use during the subacute period should be restricted. Their therapeutic action is one of chemical depletion and medicinal absorption. The value of ichthyol is largely because of its containing sulphur, which from the Homœopathicity becomes of value constitutionally and locally in removing these para and perimetric exudates. The glyceroles act by hydrating the tissues and in my experience the boroglycerole is preeminently the best.

Medicine is never wholly indispensable in any case. Not that I desire to limit the conservative hand of surgery, but I do desire to magnify the dependence to a larger degree on the dynamis of drugs. There can be no stereotyped line of treatment applicable alike to all cases, it is essentially one of discrimination and intelligent selection.

It is safe to formulate as follows: that so long as emergency symptoms are held in abeyance and so long as the development is favorable to resolution, so long may we be confident that the law of similars may yet conduct to resolution.

The "big four" in the treatment of pelvic inflammations are in the light of my experience, belladonna, apis, colocynth and mercurius.

Belladonna is suitable where pain is lancinating, rapidly appearing and disappearing; or forcing towards the genital organs; excessive sensibility; burning heat, especially of face and eyes; throbbing frontal headache; dry mouth; sleeplessness or cerebral excitement.

Apis, sharp stinging pains throughout pelvis < right side; great tenderness over the hypogastrium; painful urination, often suppressed menses.

Colocynth, violent, cutting, contracting, griping, abdominal and pelvic pain > by bending over; occurring in paroxysms; the pain < left side.

Mercurius vivus, sufferings are intensified at night; rectal and vesical urging, often with loose stool. Tongue is indented at edges.

I have used with great benefit:

Bryonia, where in early stage of pelvic inflammation great soreness throughout abdomen and pelvis has been noted > by absolute rest; great thirst, constipation, because of hard, dry stool.

Terebinthina, urine scanty and dark; cutting pain over hypogastrium; abdomen distended; violent burning, drawing backache < morning, < sitting.

Arnica, bruised soreness throughout pelvis < by any jar. Traumatic inflammation.

Arsenicum, burning in groins with pain < pressure. Pinching increasing to cutting in hypogastrium < morning < before, during and after diarrheic stool which usually accompanies. Exhaustion with thirst and restless.

Bryonia, sensation of a heaviness in hypogastrium, with soreness in iliac regions. Cutting and stitching pains in lower abdominal regions < deep breathing < right side < motion.

Cantharis, heat in pelvis with constant desire to urinate. Cutting in groins < sitting and standing and > walking. Pressure towards genitals. Abdomen distended and tympanitic.

Veratrum vir., cutting pain above pubis, with soreness; violent fever with rapid, full, strong, but irregular pulse.

The antipsoric remedies according to requirements have justly merited a place to follow the acute symptoms in meeting the deeper requirements of a disturbed organism.

Discussion.

S. J. Millsop, M. D.: I have only had an opportunity of reading this paper hurriedly since coming to this meeting; in my opinion it is a most excellent and well-written paper—I find little in it to criticise and much to commend. I am in full accord with the writer in his diagnosis and differentiation of pelvic cellulitis and pelvic peritonitis. In my own experience I think I have in most cases made a correct diagnosis, as guided by the symptoms and conditions, as given by the essayist. We might add that pelvic cellulitis is more likely to occur in women of gouty diathesis, from depraved condition of blood-vessels; specially following small pelvic hematomas; also exanthemata, as measles, scarlet fever and smallpox, which might cause ovaritis and secondarily cellulitis. While we cannot have a pelvic cellulitis without some peritonitis, yet I think it is as the essayist says, the true peritonitis may be diagnosed by its more acute outset and the greater intensity of the pain.

As to the adjuvant treatment, I think the quantity of water not sufficient; instead of one gallon I should use several gallons, or enough water to blanch the tissues. I also would recommend, where there is much tympanitis, turpentine stupes or turpentine in flaxseed tea might be used as an enema. In addition to the well-chosen remedy two-drop doses of cypripedium might be given or two-grain doses of asafetida for the sedative effect. When the times comes for topical applications, I know of nothing better than ichthyol combined with glycerine.

Just before leaving home to attend an Institute meeting two or three years ago I was called to see a woman who had given birth to her first child three weeks previously. The lochial dis-

charges, for some reason, had stopped. The patient was suffering from pelvic pain, fever, etc. I found a tumor nearly as large and hard as a fetal head. I began treatment with tampons well saturated with ichthyol and glycerine; but for the protection of my assistant I called in consultation one of our best surgeons. His opinion was that the case would have to be operated upon and that decision was accepted by all; but under the local and medicinal treatment carried out by my assistant the patient made a speedy and good recovery.

In the old chronic inflammations, where an exudate is holding imprisoned tubes or ovaries, and where neither medicine nor surgery can be considered, a surgeon friend of mine gets excellent results from placing high in the rectum suppositories composed of three grains of iodoform in cocoa butter. This is to be done every second night after first washing out the rectum. Of course, this would not be of use where only the right ovary or tube were involved, but it might be thought of in cases of tubercular deposits. I have also had some favorable results in these cases from the use of ichthyol and glycerine, placed in either cul-de-sac or by side of the cervix.

REPORT

OF THE

SECTION IN PEDOLOGY.

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Catarrhal Pneumonia.

By A. M. Linn, M.D.

The large mortality among children from catarrhal pneumonia is sufficient warrant for choosing it as the topic for this section. Further reason, also, is found in the fact that unusual impetus has been given the study of this disease in recent months. This interest is manifested among physicians on both sides of the Atlantic. In these investigations Americans can justly claim to be the leaders. The fatality attending catarrhal pneumonia is quite large. According to statistics gathered by Dr. Morrill from reports of the Boston Board of Health, covering a period of eight years, the following figures are taken:

Children of 5 years and under.	1894.
Bronchitis and Pneumonia	2050
Cholera Infantum	3577

Diphtheria	2180
Croup	969
Scarlet Fever	624

It is noticeable that the deaths from bronchitis and pneumonia are four-sevenths as many as resulted from cholera infantum; almost as many as were caused by diphtheria; two and one-fourth times as many as resulted from croup, and three and one-half times the number caused by scarlet fever. They exceed by twenty-five per cent. the deaths from both croup and scarlet fever. The relation of catarrhal to croupous pneumonia is quite clearly defined. The pathology is essentially different. Whereas croupous pneumonia with a firm fibrinous grayish or reddish gray exudate sometimes occurs in children, the usual type is catarrhal. In this exudate there is little solidity or firmness. "It is essentially a catarrhal condition." The catarrhal fluid mixed with epithelial cells and air bubbles gravitates into the bronchioles, obstructs the process of respiration, and prevents aeration of the blood.

It is distinctively the pneumonia of childhood. It obtains chiefly during the early years of child-life and the predisposition is due to anatomical causes.

Dr. Carmichael of Edinburgh asserts that the child is born with lungs very far from perfectly developed. He says: "Recent investigations on the anatomy of the lung show that at this time the alveoli have not appeared, the ultimate bronchial ramifications end in loose connective tissue which later on becomes thicker and stronger and in which the vascular network is distributed." Over this flat epithelium becomes developed and can ultimately be differentiated from the columnar variety lining the minutest bronchial ramifications. It is not until the fourth or fifth year of extra-uterine life that the delicate tissues constituting the alveoli of the lung becomes fully developed."

The microscopists tell us the cells lining the smaller bronchi are the "germinating epithelial" type. These cells are obliterated largely after the first five years of infancy and with their disappearance the liability to catarrhal pneumonia is very materially lessened. They adhere loosely and are easily exfoliated with the catarrhal excretion.

Pathologists tell us when catarrhal inflammations occur these cells are exfoliated very rapidly together with the mucous produced by the inflammation in the smaller bronchi. These tend by the action of the air in respiration to gravitate into the air cells occluding them. Investigations during the past year have added much to our knowledge of the bacteria of catarrhal pneumonia. Some definite forms and type are present in every case. Among

these are the pneumococcus of Friedländer so uniformly present in croupous pneumonia. Streptococcus and staphylococcus are frequently found. Usually in each case two or more types of the bacillus are present. How much their presence has to do with the production of the disease will be better known after more exhaustive study. In a large per cent. of cases toxic symptoms are present which point to the mischievous effects of these bacilli. Indeed the evident pyrexial and toxic effects altogether out of proportion to lung lesion can be accounted for in no other way. The presence uniformly of some of the numerous forms of bacteria during the course of catarrhal pneumonia places this among infectious diseases.

Aufrecht says bacteria alone are not sufficient cause for the setting up of pneumonia. F. Brun maintains that the pneumococcus alone is sufficient to induce peritonitis. May we not reasonably assume in the susceptible state of infancy they alone may cause catarrhal pneumonia. The system may be in a susceptible state or the disease may be developed by some ulterior cause. If it is true that the disease in susceptible cases can be induced by the bacilli, as it certainly is by other forms of irritation, then added care should be exercised against the infection. Catarrhal pneumonia prevails chiefly during the winter months and in our rigorous northern climate. It is infrequently met with in the sunny south.

It is worthy of note that recent months have witnessed more than the usual attention to the clothing and feeding of infants.

The report from this section one year ago gave unusual prominence to this important subject. It will be duly accentuated in this report to-day. At the very basis of growth is nutrition, and proper physical nutrition is to the body what proper mental training to to the mind.

It is important, it is essential, it is imperative that the proper nutritition shall be provided if the child is to make the best growth and escape a multitude of ills.

Homœopathy may well felicitate itself upon the devotion it has shown to the man in the cradle. When mature he is but a child "of larger growth." He will grow better for the zealous care accorded him in childhood. He will be a better man physically, mentally and morally because he was well fed and properly clothed during the perilous years of youth.

Our art ennobles itself when it alleviates the sufferings of age—it is no less than sublime when it directs into the course of well-being the immature steps of childhood.

Acute Catarrhal Pneumonia, Etiology, Pathology.

By S. Sharpless Hall, M.D.

This disease, which is also known as bronchopneumonia, lobular pneumonia, is an acute form of inflammation involving the parenchyma and air-vesicles, occurring in isolated patches and attacking one of a number of adjacent lobules in various parts of the lungs. It begins as an inflammation of the mucous membrane lining the alveoli, and secondarily involves the bronchi. The cause thereof is an irritant, probably one or more species of bacteria. Pathologically it is characterized by a catarrhal inflammation of the terminal bronchi, with an exudate into, and a desquamation of, the epithelial cells of the alveoli.

Etiology.—Lesions similar to those of bronchopneumonia may be produced in animals by causing them to inhale steam or other irritating vapors. If to the vapor be added decomposing organic matter the resulting lesions are almost typical. The same results are produced by section of the vagus nerves, causing paralysis of the vocal bands and esophagus, thus allowing particles of food and irritating secretions to be carried into the lungs by inspiration (aspiration pneumonia). To this class belong many of the diphtheritic pneumonias, and not infrequently in the new-born as a result of violent inspiratory efforts made while the head is descending the vagina. Thus while lobular pneumonia may occur as a primary inflammation, it is most frequently met with as a secondary affection in connection with measles, whooping-cough, scarlet fever, diphtheria, influenza, simple and catarrhal bronchitis in children. Causes predisposing to bronchitis also favor bronchopneumonia, improper nourishment, the continued breathing of vitiated atmosphere, children of a strumous diathesis, those confined to bed from injuries or deformities, and also chronic diarrhea and rickets predispose.

While the above are the principal exciting causes, the immediate cause, in the light of present research, is some species of microorganism. The later writers class lobular pneumonia as an infec-

tious inflammation the cause thereof being generally either the diplococcus of pneumonia or the streptococcus pyogenes. The latest investigations go to show that the inflammation is due to the bacteria primarily attacking the mucous membrane of the air-cells themselves, and secondarily involving the bronchi.

Of the bacteria found the one most constantly present is the diplococcus of Fränkel, this occurs in over 50 per cent. of the cases, either alone or associated with the streptococcus pyogenes, staphylococcus, pneumococcus of Friedländer, bacillus of typhoid, bacillus of influenza, or bacillus coli communis. Any of these or other forms may cause catarrhal pneumonia independent of the pneumococcus, but in cases of fever where the specific micro-organism is found the diplococcus is usually associated.

Pathology.—The post-mortem appearances vary considerably, but are more or less characteristic. Distributed irregularly over the surface of the pleura are seen slightly elevated patches varying in size from that of a pea to that of a hazelnut, of a light-red or bluish color, and firmer than normal. Slight pressure causes these to break down and upon section they exude a whitish, non-frothy, mucopurulent fluid. Other less numerous areas, dark-red or gray in appearance and somewhat depressed, correspond to the points of pulmonary collapse (atelectasis). The pleura covering both the consolidated and atelectatic areas is generally covered with a thin layer of fibrin. The lungs as a whole are crepitant and float when placed in water, but the tissue of the pneumonic areas sink. Upon section, the mucous membrane of the trachea and larger bronchi may appear normal or may be congested. The smaller bronchi are nearly always inflamed, thickened, and contain pus. Around these thickened bronchi are areas of consolidation including one or more lobules, and besides there are patches of consolidated lobules without any bronchial involvement. Surrounding the pneumonic points there is always more or less edema and at times collapse or emphysema. Inflammation, enlargement, and softening of the bronchial glands are generally present. When the inflammation is severe or septic, abscesses or caseous degeneration result, often leading to extensive tissue distruction with cavity formation. Occasionally the consolidation of an entire or larger part of one lobe gives the appearance of croupous pneumonia. At other times it runs a more chronic course lasting for several months, leaving dilated and thickened bronchi with peribronchial changes which later lead to cirrhosis.

Microscopically we have an inflammation of the terminal bronchi, and aveolar septa immediately surrounding. The walls of both

the bronchi and air spaces are thickened and infiltrated with round cells, the capillaries being dilated. The cavities of the aveoli are filled with desquamated epithelial cells, leucocytes, red blood-corpuscles, a fluid albuminous in character, and in severe cases some fibrin. The smaller tubes and alveoli are frequently so filled with exudate as to prevent any air entering. The inflamed lobules are separated from each other by a network of healthy and still crepitant lung tissue. The severity of the inflammation varies in different, and in the same case. There may be no other change than congestion. In other cases is added a catarrhal inflammation of the mucous membrane of the bronchi followed by the characteristic consolidation, with the associated pleurisy, bronchial dilatation and areas of atelectasis. Thus around the bronchi are found narrow zones varying from congestion to hepatization, the rest of the lungs in the latter cases being congested and edematous.

If resolution takes place the exudate undergoes fatty degeneration and is either absorbed or expectorated, at the same time the round-cell infiltration disappears from the septa and peribronchial tissues and gradually the pulmonary parts return to normal.

On the other hand resolution not taking place, the inflammation continuing for several weeks, the products thereof tending to the formation of new fibrous tissue, especially that outside the bronchial tubes. The bronchi, the peribronchial tissue and the alveolar septa become thickened. This new tissue extending, a bronchopneumonia is gradually transformed into an interstitial fibrosis of the lungs.

Discussion.

W. C. Goodno, M.D.: I have little to say in discussion of Dr. Hall's paper, indeed I did not expect to be able to add anything of especial importance to the work of so able a practical pathologist as Dr. Hall. The present state of our knowledge of catarrhal inflammation of the lungs has been clearly and concisely stated. I may add, however, a practical observation or two. In my own pathological work I examined many pneumonic lungs especially while for eight years I was pathologist to a children's hospital in Philadelphia, and was strongly impressed that there was not such a sharp pathological line of demarkation between the lesions of catarrhal and fibrinous or lobar pneumonia as many of us are perhaps inclined to believe. I have met well-defined catarrhal lesions which were unilateral, and lobar inflammations which were bilateral, also catarrhal pneumonia in which the exudation of fibrin was pronounced. The quantity of this element is very considerable in some very acute rapidly progressive cases, especially in the older subjects, and when the capillary bronchitis is inclined to localization the epi-

thelial cells are present in sufficient number to suggest at once the character of the process. The epithelial cell is, and probably will remain, the test of the nature of the pathological lesion, *i. e.*, as to its catarrhal or specific character. I, many years ago, called attention to this feature in a paper read before the Pennsylvania State Medical Society. We knew relatively little of bacteriology then, and of the organisms related to pneumonic processes, and consequently I did not study them in connection with my cases. Whether the fibrinous exudate as it appears in the lungs is a peculiar product of the diplococcus of Fränkel and is present in cases of catarrhal pneumonia in which this organism is present and active I do not know, and have read of no conclusive observations, but it seems possible, perhaps probable.

That the lesion begins in the alveoli of the lungs in some cases, and is not always the result of extension from the bronchi, I learned, especially, from the case of a feeble woman who after exposure developed fever and the clinical symptoms of a chest inflammation. The life of the patient was cut short suddenly by another affection and the lungs were examined with care. There were a number of foci of slight consolidation in each lung, distributed as in typical lobular pneumonia, but without marked inflammatory changes in either the large or small bronchi. The alveoli within the involved areas were stuffed with, practically, epithelia only, a few migratory cells were seen here and there, as well as cellular infiltration of the parenchyma. The minute bronchi manifested the evidences of catarrh within the involved areas but there was not a generalized bronchitis. How different the clinical picture of such a case from that of the typical bronchiolitis, or capillary bronchitis, or suffocative catarrh, whichever you choose to call it. In such there is a general bronchitis, especially developed in the smallest bronchial tubes, a copious, tenacious, highly cellular exudate, obstruction, alveolar collapse, aspiration of secretion into alveoli, and, probably, lobular inflammation and its consequences. I cannot feel after a careful study of this subject, from both a pathological and clinical standpoint, that we are justified in following certain recent authors in considering capillary bronchitis and lobular or catarrhal pneumonia as parts of one pathological process and to be treated in our books as a unit.

The Physical Signs of Bronchopneumonia in Children.

By Edward R. Snader, M.D.

Symptoms alone, no matter how typical and characteristic, are an insufficient basis upon which to frame an absolutely certain diagnosis. There are too many thoracic maladies so closely akin symptomatically to bronchopneumonia for a correct diagnosis to be formulated through the means alone of a mere symptom grouping. The presence of a series of symptomatic manifestations may suggest the likelihood of a thoracic affection, but cannot determine either its nature, its extent, or the presence or absence of associate or complicating diseases. In other words, the physical signs are the only and final arbiters of the diagnosis. Without physical signs you may suspect disease. With physical signs and symptoms interpreting the signs you are certain.

The value of the physical signs is further enhanced by the fact that many cases of bronchopneumonia present very few symptoms. This point is especially true of the secondary variety, and, practically speaking, the vast majority are sequential lesions to general and systematic diseases. The symptoms of the general disease mask the local one in the lungs. Many cases presenting only the ordinary classical phenomena of an every-day bronchitis show, on careful exploration, unexpected lesions of catarrhal inflammation of the lung structure. Any careful investigator of the thorax by the methods of physical diagnosis is even himself surprised at the lesions he discovers in cases where the symptoms were not at all suggestive of catarrhal pneumonia. Observers of this class naturally learn the comparatively slight value of the symptoms alone, and the unequivocal usefulness of the signs in arriving at a rational, tenable, and defensible diagnosis.

The most typical grouping of physical signs is dulness on percussion, bronchovesicular or bronchial breathing, increased vocal resonance, increased bronchial whisper (seldom available), and râles, of a purely bronchial character, and the subcrepitant particularly. These signs may be found in one or more spots, sometimes covering

large areas, but with extreme rarity involving as much lung space as does a croupous pneumonia. The posterior portion of the chest is the point of election, but the anterior parts of the lung, in the supraclavicular and infraclavicular regions, is more often attacked than the text-books would have us believe. A not unfrequent seat is at the inferior border of the scapulæ, a position in which the consolidation signs may be found, while a strip of catarrhal lung inflammation sometimes runs down alongside the spinal column, being, in this region, for reasons perfectly obvious to you all sometimes extremely difficult of diagnosis. If the group of physical signs just enumerated were always discoverable, the detection of catarrhal pneumonia would be, indeed, a most easy problem. But, practically, the pathology of the disease often looks out for itself; and, indifferent as to whether we detect the havoc the inflammation is bringing about, alters the physical signs in the most kaleidoscopic manner, and plays hob with text-book groupings.

Perhaps the next most frequent grouping of signs is dulness on percussion, with suppression of the sounds of respiration and but faintly heard räles, mostly moist.

In still other cases, there is increased vocal resonance or bronchophony, elicited while the child is crying, and but slightly altered respiratory sounds, and many râles, particularly dry ones.

In some of the cases, characterized by associated capillary bronchitis there is so universal a distribution of sibilant and subcreptant râles, as to make it impossible to appreciate changes in the pitch and quality of the sounds produced by the act of breathing. Here the only sign obtainable, especially if the lesions are very small and very much diffused, may be the presence of spots of moist räles, higher in pitch than those heard in the immediate neighborhood of the suspected lesion or lesions. Even this meager showing is sufficient for diagnosis, but assurance is rendered doubly sure if these areas of high-pitched moist râles are associated with dulness on percussion, provided collapse of portions of the lung be excluded.

Another grouping of physical signs is found as islands of silence in a sea of sound—that is, there are silent areas, around which are heard bubblings of all kinds and description, amid the fine fiddling sibilant and sleepy, snoring sonorous râles. If these silent areas are associated with slight dulness on percussion, or even the vesiculotympanitic note, and persist, and there are at present even meager symptoms suggestive of catarrhal lung inflammation, the diagnosis is complete.

Sometimes, when the child is crying, laughing, or prattling, the

examining ear will note spots in various portions of the chest, where the vocal resonance is increased in intensity, or even the vocal sign known as bronchophony may be elicited. The spots, if they do not disappear rapidly, even without modification of the respiratory murmur, or alterations in the percussion-note, are sufficient.

Again you will find regions here and there in which bronchial or bronchovesicular breathing may be heard, râles of any kind not being sufficiently in evidence to obscure the modifications in the respiratory murmur caused by the consolidation.

In still other cases, while signs of consolidation are discoverable, they vary much in their character, here being a bunch of high-pitched moist râles, there the thin squeak of a collection of sibilants, there a silent area, here a spot of bronchovesicular respiration, there a region of increased vocal resonance, there a bouquet of subcrepitants, and, as an extremely rare occurrence, a spouting geyser of crepitants.

In point of fact almost any conceivable combination of the signs that we rely upon as indicating the presence of slight or considerable lung consolidation may be found. If this clinical fact be appreciated, I think you will understand me when I say that the chief difficulty in the diagnosis of catarrhal pneumonia in children lies, not in the disease itself, but in the examiner. If one hunts for a typical grouping of physical signs the diagnosis will seldom be made with positiveness, and is only guessed at in a wishy-washy, haphazard style, possibly because of the presence of severe symptoms pointing to the respiratory sphere as their most reasonable origin, while the vaster array of mild cases, and the ones secondary to the perhaps dominant malady as well as those occurring in children suffering from what is wrongly considered a simple bronchitis "cold" on the chest, are undiscovered, unappreciated, untreated or maltreated; and, if apparently recovered from, may leave spots of unresolved consolidation that invite lung break down or offer a fine culture bed for the tubercle bacilli, the streptococcus and the staphylococcus.

I do not wonder that some examiners who do not take time to explore their cases, consider all cases of capillary bronchitis catarrhal pneumonias; but at the same time I aver that I firmly believe there need be doubt as to the existence or non-existence of the consolidation incident to the pathological evolution of catarrhal pneumonia in remarkably few cases. The affection is easily discoverable if the whole gamut of physical signs of solidification be gone over carefully, and you do not expect the signs to play a perfectly familiar air to your ears. You may occasionally expect to have to attempt the translation of something almost Wagnerian in its tune-

less jargon, that is, so far as the appreciation of your ear goes of any combination of sounds you have previously heard.

There is much, very much, indeed, too, in the technique of the methods of physical diagnosis employed. One who pummels the chest of a child as he would that of an adult will never elicit dulness on percussion. The resilient chest of the young one needs the light, delicate percussion stroke to elicit its resonance, and if one does not expect to find a percussion-note over a suspected area as flat as a meat ax, and remembers that dulness on percussion does not mean absence of sound, but does mean diminution of resonance, diminution of vesicular quality and elevation of pitch, there will be far fewer cases of catarrhal lung inflammation considered to be bronchitis. An ear that quickly detects changes in pitch is at a great advantage in investigating these cases. While for obvious reasons we are at a distinct disadvantage in our thoracic examinations in children, yet these difficulties, I am quite sure, are grossly overestimated. It is true, we cannot control respiratory rhythm, cannot make use of the whispered signs of disease, but notwithstanding this a little tact will sometimes give us ample information upon which to base a rational diagnosis, although the signs elicited may not be those we expect to find. You can make a child cough, and sometimes will be able to discover indubitable signs that a moment before were apparently not present. An induced crying spell will give you the vocal phenomena of disease, even though the respiratory sounds be entirely obscured by the abundance of râles. Râles may be made to manifest to the ear where before inappreciable, by virtue of the deeper inspiration and expiration following a coughing attack. Practically speaking, at least early in the disease, râles easily discoverable are of insignificant diagnostic importance so far as the suspected pneumonia itself is concerned, while those that must be sedulously sought for, analyzed and interpreted as to their significance are the valuable râles in a diagnostic sense. The readily perceived moist râles may mean simply an ordinary bronchitis. A good rule, where you apprehend that catarrhal pneumonia is present, is to suspect lung consolidation, until its presence can be absolutely excluded, rather than take the attitude usually assumed, that of presuming that no consolidation is present because the typical text-book signs are not found at a cursory and perfunctory examination. Be willing to accept any possible combination of physical signs that indicate, even faintly, that catarrhal pneumonia is present.

Discussion.

P. H. Ealer, M.D.: We have listened to a very interesting paper and a very able one. It seems almost superfluous to attempt to discuss it. The paper speaks for itself. There is, however, one point that I should like to help emphasize, namely, the more earnest search for the physical signs in every case of bronchial pneumonia, to which we are called. It is the pivotal condition that positively diagnoses the existence of the pulmonary involvement. The absence of the physical signs is due we believe to the inability of the physician to discover them, either from a lack of care in making the examination or a lack of knowledge. The so-called classical symptoms, the cough, temperature, dyspnea, etc., do not mean necessarily any pneumonia whatever. These point to some obstruction of the respiration. It depends upon the physical signs to point out and locate definitely the exact structures involved. Our only positive diagnosis of the normal conditions of the chest depends upon the normal physical signs. Their alterations—from the normal signs—should be as conclusive evidence. In one of the text-books there is a list of one hundred and sixty cases, in which the author claims there was an absence from physical signs of consolidation, in over sixty of them. Thirty-six of which, however, died, and at the autopsy it was proven positively that a catarrhal pneumonia was present. It seems almost incredible that a pneumonia sufficiently severe to cause death could be present without giving positive evidence of pulmonary consolidation.

Course, Temperature and Complications.

By P. E. Triem, M.D.

Bronchopneumonia, a disease peculiar to childhood, rarely develops as a primary affection. The course of an attack, will depend largely upon the antecedent disease and its etiologic circumstances. It seldom pursues a definite course and is subject to many exacerbations and complications. Its course is also dependent upon the extent of involvement, as well as any constitutional dyscrasia with which the patient may be affected.

In typical cases of the simple, acute form the clinical features are more distinct with the bronchial symptoms predominating. The temperature is not usually alarmingly high and excites very little apprehension. There are, however, disturbances of functional activities much more serious than would be indicated by the slight inflammatory process. Rapid prostration of strength, enfeebled heart action, impeded respiration and cerebral disturbances are frequent results in the early stages. Unless speedily relieved a fatal termination may follow in a very short time. In exceptionally rare instances resolution and recovery follow in regular order.

Unfortunately this variety is the rare exception, so much so that the real nature of the attack is often overlocked. In the proportion of cases the clinical history is illy defined, and irregular. The onset is gradual and insidious. The preexisting bronchitis assumes a more acute form. The temperature is variable, in some cases reaching 105 degrees F. thus giving evidence of pneumonic implication; but more frequently the rise in temperature is not so marked. A decided change, however, takes place in the frequency of the respirations which often increase to 60 or even 80 per minute. Added to the alarming rapidity of respiration is a hard, harassing and frequently painful cough. The pulse-rate is abnormally frequent, and in the latter stage may be quite feeble and irregular. There is complete anorexia, and rapid prostration. In the more severe forms, cases may terminate fatally in a few days, but ordinarily not sooner than two or three weeks. On the other hand,

cases in which recovery ensues frequently last from six to eight weeks, though in some instances from one to three weeks only.

In very young infants the disease often runs a rapidly fatal course. In these cases the cerebral manifestations often overshadow the pulmonary symptoms, in some instances the case running a course very closely allied to tubercular meningitis. If the child is able to survive the violence of the attack for two or three days pulmonary symptoms will appear.

Again many cases develop as a sequence of tuberculosis, either by direct involvement of the terminal bronchi; or in consequence of lowered vitality. These cases usually assume a chronic form with variable temperature, rarely below 99 degrees nor higher than 103 degrees F. Exceptionally the tubercular deposit may be sufficiently disseminated through the lungs, so that solidification rapidly becomes general, and the course will resemble that of lobar pneumonia. These cases invariably terminate fatally.

Before taking up the subject of complications, it might be profitable to study more carefully the histological course of this disease. As stated above, bronchopneumonia is nearly always of secondary origin. The inflammatory process advances either by continuity or by parasitic infection. According to Delafield the essential lesion is a productive inflammation of the bronchi and of the immediately surrounding air-spaces. The inflammation is from the first not exudative, but productive; that is, with the formation of new tissue. This form of inflammation naturally lasts for a longer time than would exudative, and merges into a chronic productive inflammation of the lung, it may be with sclerosis or chronic thickening of the pleura.

Associated with this lesion should be mentioned an exudative inflammation of the air-cells, which become filled with epithelium, fibrin, and pus, with resulting consolidation of the lung. The epithelial cells lining the air-sacs are more numerous in children than in adults, hence the more rapid formation of inflammatory exudate in the former than in the latter. Exudative inflammation of the pleura is also often an accessory lesion.

We are thus prepared to understand the morbid evolution which advances with such destructive rapidity. Implanted as it often is, upon diseases which have already well-nigh overpowered their victims, it enters the very portals of life and demands unconditional and speedy surrender. On account of the rapid cell-proliferation, the smaller bronchi became rapidly obstructed and the child becomes greatly distressed by a sense of impending asphyxiation. There is

at first deficient aeration of the blood, but finally a certain number of lobules become entirely shut off from the exercise of their function and carbon-dioxide accumulates to a dangerous excess in the pulmonary and systematic vessels, poisoning the nerve centers and ultimately causing paralysis of the heart. Recovery in such cases is, however, possible, but rare. The respiratory embarrassment diminishes at the same time that the general and febrile symptoms improve. The temperature falls with irregular oscillations. The aspect changes for better; the little patient asks for food and to be allowed to get up. Gradually all the signs of bronchitis and of induration diminish and disappear, and convalescence is fairly well established.

The recovery is often dependent upon the character and degree of the complications. Even in the most simple form there is some danger of irreparable damages to certain portions of the lungs. In the more severe cases, special conditions obtain as direct results of mechanical causes which necessarily retard and complicate progress towards recovery. Perhaps the most frequent of these conditions is dilatation of the bronchi. This is a compensatory effect and not necessarily of serious import except in extreme cases. However, secondarily it leads to various causes of future ill-health. The dilated bronchi become the receptacle of vitiated discharges which may form foci of infection from many sources. Ulceration of their mucosa, which frequently occurs, is a prime factor of prolonged and exhausting cough, and opens the gateway for the entrance of infectious elements to the parenchyma of the lungs.

Atelectasis, due to obstruction of the bronchi occurs to a greater or less extent in every case. If the obstruction of the bronchi is sufficiently prolonged, the collapsed air-cell will not only lose its functional expansibility but will undergo organic changes as well, which make it a source of delay in the process of reconstruction.

This condition is also primarily causative in the third mechanical effect of bronchial obstruction, *viz., compensatory emphysema.* As a purely physiological condition emphysema could only be considered a favorable response to the extra demands caused by the incapacity of some other portion of the lungs. But it eventually becomes pathological, and as such complicates the constructive metabolism so essential to the restoration of the weakened and well-nigh hopeless portions of the lungs. Emphysema also leads to hypertrophy and dilatation of the right heart.

Abscess of the lung, although of rare occurrence and usually small, is nevertheless an occasional complication of serious import. It is especially prone to occur in the inhalation and deglutition forms

of bronchopneumonia. Of even less frequent occurrence but of much more serious nature is gangrene of the lung. As a complication of the bronchopneumonia it is undoubtedly due to infection in bronchiestasis from the foulness of retained secretions. Death usually ensues from exhaustion or hemorrhage.

The frequency of tuberculosis as a complication of this disease can be readily comprehended both from the standpoint of the pathology of bronchopneumonia and the etiological factors which make the communicability of the bacilli of tuberculosis so easy. Every condition favorable to its development is present, and the *missing link* is *omnipresent.*

Diagnosis (Catarrhal Pneumonia).

By Wm. W. Van Baun, M.D.

Bronchial pneumonia, rather than catarrhal or lobular, seems the better descriptive term of these cases now under consideration, even though it describes the lesion rather than the disease. It includes a number of quite distinct diseases, or infections, differing decidedly both in the etiological and clinical factors. It is distinctly the pneumonia of infancy, for under two years of age the majority of primary pneumonias are of this type, and throughout childhood nearly all secondary cases are of this class.

During the first year and after the third the pneumonias are clearly of their own distinctive type, either bronchial or lobar; between the beginning of the second and the close of the third both kinds may appear in the same lung or in the opposite lungs at the same time.

Neither the clinical symptom group nor the pathological process follows a regular order such as is found in lobar pneumonia, and the fact that bronchial pneumonia frequently exists without signs of consolidation at any period during the course of the disease is to be kept well in the foreground.

The object of this generalization is to emphasize the points that bronchial pneumonia is the usual form found in childhood under three years of age, and that it is really an extension of the inflammation of a preexisting bronchitis. The *diagnosis* will usually be established with the sudden oncome of continuous high fever, rapid respiration, cough, prostration and cyanosis. This symptom group under the above conditions almost invariably means a bronchial pneumonia even if the physical signs are absent or negative. Frequently pneumonia cases are found without consolidation. Others are met with having areas of partial consolidation only, while still others have more or less complete consolidation. Protracted or persistent bronchopneumonia may gradually present all three stages in different parts of the same lung, or in parts of the opposite lungs.

Acute congestive pneumonia is the type of the disease which is

found free of physical signs, although congestion may give rise to feeble breath sounds over the affected areas, and occasionally slight dulness or diminished resonance. If the mucous membrane of the bronchial tubes is involved coarse sonorous or fine sibilant râles may be present as the larger or smaller bronchials are involved, and later, posteriorly, fine moist râles may appear, these later are the first distinctively characteristic diagnostic signs of bronchial pneumonia. Later the respiratory murmur becomes changed over the areas affected, being feebler and higher pitched, while over the large tubes in other portions of the chest the coarse râles of bronchitis are found. In such cases the pneumonic condition is so scattered or diffused as not to give rise to diagnostic physical signs and the patient goes on to recovery without them.

It is the rule for the temperature to be high and remittent; if it is not, or is only slightly above normal, it is apt to be misleading. If the respirations are rapid, and cough is present, which may be very slight, especially in infants, together with prostration and cyanosis, bronchopneumonia is almost a certainty. If the pneumonia follows a bronchitis and is primary, or is secondary to an infectious disease like whooping-cough, measles, diphtheria, ileo-colitis, grippe, etc., the lung invasion is characterized by a steadily increasing temperature, rapid respiration and pronounced prostration, and the physical signs may give no evidence of lung changes for twelve to twenty-four hours. It is astonishing how frequently high fever in children, associated with indefinite symptoms, is due to unrevealed pneumonia, and in all obscure cases the chest should be thoroughly explored daily until the diagnosis is established. An infant's lungs cannot be satisfactorily examined during sleep for the breathing is quiet and superficial and the breath sounds over a portion of lung completely consolidated may be heard feebly, or the lung may be silent. On making the child cry and breathe deeply bronchial breathing and râles will be distinctly heard.

When the areas of consolidation are more or less complete, and shade off into healthy tissue, the diagnosis is comparatively easy, and if the classical physical signs are present, the nature of the lesion is without a doubt.

Differential Diagnosis.—At the very outset *bronchitis* will be found to be a stumbling block and when severe cannot be positively diagnosed. It begins with high temperature of short duration, falling to 100° or 101° in one or two days. The prostration is less severe, as are all other symptoms excepting the cough, which is much more marked. When the bronchitis affects the smaller tubes, râles

are heard both front and back and over both sides. If tuberculosis can be excluded a localized bronchitis will mean bronchopneumonia. Another good generalization will be that in cases of doubt the chances will favor bronchopneumonia rather than bronchitis.

Tuberculosis developing rapidly presents pulmonary signs and symptoms that may be identical with those of bronchopneumonia. The heredity, the more profound constitutional symptoms, anemia and wasting, preceding the local manifestations by days or weeks, and the more constant fever will assist in forming a diagnosis. At the same time there are cases of tuberculosis and bronchopneumonia which present so many symptoms in common that it becomes extremely difficult in some instances to differentiate the one from the other. In such a situation the guide will be on general lines; and if the infant or child has been previously healthy, with good environment, the disease beginning with acute symptoms, the condition will be found to be bronchopneumonia and not tuberculosis in the great majority of cases, no matter how long the duration of the illness, how irregular the symptoms, or what the physical signs may be. After a first attack, or after repeated attacks, a chronic interstitial pneumonia may develop, or again a simple pneumonia may be followed by a tuberculosis.

Atelectasis is to be considered, especially in infants under six months, for during this period atelectasis and bronchopneumonia may be associated. The history in these cases will be helpful and if the infant in early life has been strong and healthful the congenital type may be discounted or excluded altogether, and if atelectasis is present it is due to collapse either from compression or obstruction.

When the congenital type does exist the physical signs are seldom helpful, but the history is, and will probably show a difficult birth resuscitation, a feeble crier, a subnormal temperature and a cyanosis disproportionate to the other symptoms.

Malarial Fever.—Bronchopneumonia having a remittent temperature is sometimes mistaken for the fever of malaria, the latter, however, is more distinctly intermittent than remittent in type. If the malaria should have added to it an active bronchitis or a pulmonary congestion, which is not unusual in a sharp malarial attack, the diagnostic problem becomes a difficult one. The history of exposure, the presence of an enlarged spleen and the discovery of the plasmodium in the blood will decide in favor of malaria.

Lobar Pneumonia.—When the well-known signs and symptoms are present—such as the sudden onset, with vomiting, convulsions, or chill; rapid respiration, with the expiratory grunt or moan;

cough; thoracic pain; high temperature, 102° to 105° F.; marked prostration; rapid oncome of a circumscribed consolidation in one lobe or portion of lobe, running a typical course with a five- to eight-day crisis, the diagnosis is easy. But should the signs and symptoms of broncho and lobar pneumonia blend, or vary in themselves, then a difficulty of no mean importance arises for the diagnostician.

Obscure and indefinite symptoms, with high fever in infants and children, point to pulmonary involvement and differentiation is desirable. Lobar pneumonia is nearly always a primary condition, occurring between the third and tenth year in children previously healthy; while bronchopneumonia in about sixty per cent. of the cases is a secondary condition in delicate and debilitated children under two and a half years, which present in primary cases the pneumococcus and in secondary the streptococcus or a mixed infection.

In lobar pneumonia, one lobe or part of lobe, most frequently the left base, is affected, the râles are heard early and during resolution, with no signs in the opposite lung. Consolidation begins early, on the second day, or even on the first, it is complete and the area is sharply defined. A rapid resolution takes place in three to eight days.

Bronchopneumonia has a more gradual onset, being especially insidious in secondary cases, runs an atypical course with fever continuing from three to five weeks, terminating rarely by crisis. Both lungs are affected, most frequently the lower lobes posteriorly. Râles are present in both lungs throughout the course of the disease. Consolidation if present is superficial, incomplete and shades off gradually. Resolution is slow and often incomplete, running from one to ten weeks, frequently becomes chronic and long lasting, or it relapses, or fresh attacks are frequent, while empyemia, chronic interstitial pneumonia, or tuberculosis may be found as sequelæ.

Discussion.

J. W. Dowling, M.D.: The two papers just read by Dr. Van Baun and Dr. Snader take apparently opposite sides on the point of diagnosis, Dr. Snader laying great stress upon the occurrence in the vast majority of cases of positive physical signs, while Dr. Van Baun takes the ground that many cases exist in which the physical signs cannot be made out. One is, therefore, confused between two excellent authorities. I do not believe that the symptoms are a reliable guide. I believe that we can look for physical signs. There is a physical sign which I think is overlooked frequently and that is increase of vocal resonance. While

you cannot make a child speak, you can always make him cry, and you can then hunt with the stethoscope or with the naked ear when the cry is heard. If we look for the physical sign we have positive evidence in pneumonia cases which otherwise are considered doubtful.

I would like also to emphasize the importance of the examination. Too many men in active practise do not take the time. They make a superficial examination, prescribe and go away. I believe no doctor should leave a sick child without having done at least two things; look in its throat, no matter what is the matter with it, and examine its chest for pulmonary consolidation. The constant practice of these two precautious would materially lower the death-rate by assisting in early diagnosis.

C. WESSELHOEFT, M.D.: In regard to this very interesting subject, the examination of patients, I would like to emphasize a few simple points in the method of examination of children. Doctors, when they are first taught to examine patients, are rarely brought in contact, to my knowledge, with a healthy infant. The first they see are the diseased ones, or those who are sick. I think students ought to be instructed, and also a good many practitioners, to examine every healthy infant they can come across. If they have never heard the respiratory sounds of a healthy infant, they will not know much about a diseased one, but if they become thoroughly acquainted with it, the least deviation from the healthy condition is very easily observed. In examining an infant the physician usually puts the child on its back and puts his ear on its chest in front. He will hear nothing there, but if he would put his ear to the back he will hear it, nine times out of ten, when he thinks from his examination of the front of the chest that the patient has nothing the matter. In order to get the best position, take the child on your hand and hold it up to your ear and turn it round about, and you will hear anything that is there, especially if you are acquainted with the normal sound of the lungs.

THOS. E. ROBERTS, M.D.: I am very much surprised that two such excellent papers should come to an end without mentioning another very important method of diagnosis, and that is the use of exploratory function with the hypodermic or aspirating syringe. If you will recall the papers, I do not think in the subject of differential diagnosis any reference was made to the changes which might lead to a localized empyema. I had occasion to study this subject a little over two years ago, and reported nine cases personally observed which started out as simple broncho-pneumonia and finally developed localized empyema. In these cases the pus was thoroughly walled off and no physical sign would give the condition until the needle had been used. The same sign could be accounted for by local, non-pyogenic collection of serum or an unresolved or chronic pneumonia. In each case fluid was the probable diagnosis, but the character of the same could not be determined

positively or the proper treatment be instituted until the needle was used.

T. C. DUNCAN, M.D.: Dr. Wesselhoeft referred to a method of managing infants during auscultation that is very good. I found a very easy method of auscultating the lungs of children was by having the mother place the child over her shoulder while the physician stands behind. One great difficulty in chest diagnosis in children is that they are so frightened that they have irregular and unnatural breathing; and putting the child in that position, its arms around the mother's neck, gives the child a sense of security and the physician a fine opportunity to listen; but when you get in front the child is so frightened that the sounds will become confused.

Its Treatment and Management.

By W. H. Hanchett, M.D.

Catarrhal pneumonia, bronchopneumonia and lung fever in childhood practically are about one and the same. Certainly when we take the medical treatment as well as the adjuvants in the management and treatment of this disease or of pneumonia in its different forms in childhood, we must consider the subject of these various phases of pneumonia or lung fever as one disease and prescribe for the conditions and symptoms as we find them at the bedside. Technically speaking, no doubt there is a difference in the various forms of lung fever and it would not be scientific to use this term when we take into consideration the actual pathological condition of the lung tissue. But when as practitioners we are called upon to treat these various forms of pneumonia in children it is not so much a question of diagnosis as it is to meet the varied symptoms which express themselves so vividly to the physician. Other members of this bureau will discuss the pathology of the disease from a more scientific standpoint, while I am supposed to give my ideas of the management and treatment. However, I have this to state at the outset that personally, whatever shades of difference writers and authorities may have on this subject, we must group the different diseases as one when we take the treatment into consideration.

Post-mortem examinations undoubtedly may reveal marked distinctions between the varieties of pneumonia in childhood. No doubt some of the writers in this bureau will maintain that true lobar pneumonia seldom, if ever, is found in childhood, and hence the treatment which we might give to adults suffering from pneumonia with rust-colored sputa and hepatized lung tissue would not be called for in the acute capillary bronchitis of childhood; but this I deny. Therefore, with this broad understanding of the definition of pneumonia of childhood, I shall speak of its treatment as I find it in its various forms. Furthermore, medicines which might help

a case of catarrhal pneumonia might also be the indicated remedy in a case of lobar pneumonia. The practising physician should never treat the name of a disease however skilful a diagnostician he may be. He should meet the symptoms and the totality of the symptoms which may arise or be exemplified in his patient. Usually the physician does not have the opportunity of meeting the various early stages and symptoms of pneumonia among his little patients that he does in adult practise. In truth the symptoms of catarrhal pneumonia in childhood are not prominent in its early stages. The chill which marks the onset of pneumonia in the adult is either lacking in the child, or if present the child does not understand what it means or is too young to tell anything about it, while oftentimes the condition for which we would prescribe in the very earliest stages have either altogether passed or go unnoticed. We are usually called to treat children after the first stage of the disease is over. A slight or severe chill may be quite unnoticed by the parents and when the physician is called he finds fever, restlessness, cough, drowsiness, loss of appetite and perhaps vomiting may be present. We may find the temperature from 100° to 103°, or even 105°. When we are called during the early stages of catarrhal pneumonia and find the temperature high, the pulse quick, and an expression of anxiety with restlessness and thirst *aconite* is the remedy; I care not whether you give it in high or low potency. In my mention of the administration of the various medicines I yield the greatest latitude to every physician in this matter of potency. With children, however, it is my common practise not to give the extremely low attenuations. My own experience has taught me that in most of the remedies I get the best results from the sixth, twelfth and thirtieth.

Be sure that you have a reliable preparation of the drug. See that you are neat and careful in its administration, and do not repeat your doses too often in the treatment of children. My custom usually in the administration of aconite is, if the above-mentioned symptoms are present, to give a few broken doses of the drug, oft repeated. Then instruct the nurse to gradually lengthen the time of giving the medicine if the case seems to be doing well and improvement continues, and to give very little if any medicine while this condition prevails. As to the administration of drugs in the treatment of catarrhal pneumonia I shall first name those which I have found to be of greatest value. I shall not take the medicines alphabetically, but take them more in regard to the frequency of indication.

Aconite is probably the most often indicated in the early stages of catarrhal pneumonia, with symptoms as above stated. Next in order I would mention *bryonia.* I have found this a most useful remedy, both in adults and children. Many think that bryonia is indicated only in that class of pneumonias where there is hepatization of the lung tissue. However, in my experience bryonia does not always have the peculiar trying cough that so many claim belongs to it. The cough of bryonia is usually painful and the child cringes from it. This is a marked symptom and indicated by the efforts of the little patient to procrastinate the cough; when it comes the child screams and cries in agony. Bryonia has great dyspnea, which is aggravated by the slightest motion. The respiration of bryonia is short and incomplete; it may be said that the patient only half breathes. There is thoracic tenderness on examining the chest. The tongue has a foul brown coating and if the child is old enough it calls for large quantities of water, oftentimes it is surprising how much they will drink when offered. Bryonia is a drug which usually I use both in child and adult in the thirtieth attenuation in this disease.

Gelsemium is a drug of great value where we have a catarrhal pneumonia attended by a condition resembling malaria; where intermittent paroxysms of hoarseness occur. I have found it especially valuable in the catarrhal pneumonia of measles. The respirations are sighing in character and the breath comes heavily as if the child breathed with great effort. The pulse is slow and full and flowing, frequently during the gelsemium condition, nausea and vomiting exist. This drug I generally give in the lower potencies, from the first to the third attenuations.

Tartar emetic is a most valuable drug in the treatment of acute capillary bronchitis and the various forms of catarrhal pneumonia. While not a medicine particularly adapted to acute feverish conditions, yet it is surprising sometimes how this drug will reduce the fever even in the earlier stages of the disease. The breathing is quick and hurried; crepitant râles are frequently present. The bronchial tubes are filled with mucus and the cough is usually loose, while there is great depression in breathing. This drug is perhaps one of our most useful remedies in the treatment of this disease in childhood. In many of the cases which we are called to see it appears to be the true similimum. One prominent writer says, "Tartar emetic is Homœopathic to all the stages of capillary bronchitis after the acute inflammation." He says that many children and old people have been saved by it, but that as many have been sacrificed

by its abuse. This is undoubtedly true from the careless administration of this drug in the cruder forms, especially in the treatment of infants. I believe that tartar emetic should not be administered to a small child below the sixth attenuation.

Belladonna is one of the chief remedies which we so commonly see indicated. The fever is high, the face intensely flushed, the carotids throbbing, pupils dilated, twitching of the muscles, jerking of the arms and legs, and a general anxious expression in the child's face. The cough is usually dry and there is a general arterial congestion.

Phosphorus is a remedy which we could not eliminate from our treatment of pneumonia. The cough is incessant, dry and hacking; the secretions in the bronchial tubes are usually scanty; the râles are crepitant or sonorous; the air passages seem dry and irritable. The breathing is laborious and short; and the prostration is usually rapid; the features appear sunken and the lips and tongue are dry. In the phosphorus stage we frequently get involuntary diarrhea and threatened paralysis of the lungs. The patient is usually worse toward evening and continues so during the night. The fever is often very high, and although this is another drug which is not ranked as a fever medicine, yet in many phosphorous cases the fever prevails during the entire time when this drug is indicated.

Ferrum phosphoricum is a remedy which I have used very frequently in the treatment of the pneumonia of childhood. If we may use the term it is a medicine which occupies a place midway between aconite and bryonia. We find a relaxation of the muscular fibers of the blood-vessels. There is a general heat of the body with very little thirst, frequently nose-bleed and also the peculiar dry hacking cough which we find under bryonia.

Cannabis sativa is a drug which is peculiarly adapted to the pneumonia of childhood where there is threatened meningitis. The fever is so high that there may delirium. The lung complications of the disease seem secondary. There is apt to be vomiting of a greenish character. The cough is hard and teasing.

Hepar sulphur is indicated in the milder forms of catarrhal pneumonia with profuse secretions of mucus. This drug will often clear up a chronic case when no other medicine seems to be of any avail. *Hyoscyamus* is indicated when the cerebral symptoms are prominent. Delirium and even sopor may be present. The cough may be dry or loose and rattling. *Arsenicum* I also use frequently in chronic cases. One of the key-note symptoms is the extreme prostration after the child has had a severe fit of coughing. The

breathing is difficult and rapid. This child has great thirst and like bryonia is apt to be worse on motion. Frequently the simple exertion caused by moving or raising the child will bring on one of these severe attacks of coughing, followed by this extreme condition of exhaustion.

Ipecac.—The sibilant râles of ipecac are prominent when this drug is indicated. There is copious secretion of mucus which nearly suffocates the child. During the cough the face becomes livid; the respiration short and there is great dyspnea. Nausea is a prominent symptom, and frequently vomiting.

Lycopodium often proves a most useful remedy in the catarrhal pneumonia of children. The cough is short, aggravated during sleep, and from every exertion. A key-note symptom is the characteristic aggravation from four to eight in the evening, and the peculiar fan-like motion of the alæ nasi. I will mention only one or two drugs with their key-note symptoms and then give a general list of remedies which time will only allow me to name in order. In truth it seems foolish to go through a long list of medicines with which you are so familiar. All I can hope to do is to merely name these drugs in the order of frequency used in my own experience. Undoubtedly many of you have found a very different order in your own practise from that which I have found in mine going through my case-book. I have taken the remedies with their key-note symptoms in order as I have used them with greatest frequency and good results.

Spongia and *cuprum* are two remedies which I wish to emphasize as being of great value in the peculiar croupy cough which so often arises in catarrhal pneumonia of childhood. The spongia cough is usually worse at night, is long lasting and very distressing. It will frequently check these severe forms of croupous pneumonia. Cuprum comes in well when the pneumonia is complicated with whooping-cough; also, where paralysis of the lungs is threatened. Cuprum is a splendid remedy for that peculiar diarrhea, accompanied by great prostration.

Sanguinaria, opium, mercurius, veratrum, digitalis, kali bichromicum, kali carbonica, calcarea carbonica, ammonium carbonica, pulsatilla, rhus toxichodendron, chamomilla, allium cepa, sulphur, nux vomica, and a list of others which, when indicated by the totality of the symptoms, are equally important. It is certainly very unsatisfactory to attempt to give medical treatment of so important a disease as catarrhal pneumonia in childhood in a short and limited paper, and I fully appreciate the

fact that to the general practitioner of wide experience it must be a bore to listen to the symptomatology of a lot of remedies perfectly familiar to yourselves, and in closing I will only mention a few of the adjuvants which I have found useful in the treatment of this disease among my little patients. In the first place I am free to say that however unscientific this may be I sometimes use a mild administration of a good stimulant to allay "that cough," that cough which often gets you up at night to answer the telephone asking, "Doctor, can you not do something to quiet the baby's cough? Please do something. The baby has kept me awake half the night with a constant cough." Now perhaps you can prescribe the indicated remedy for that cough and stop it or at least allay it so that the poor mother and child may get a little rest. I will frankly admit that after my closest prescription and most careful study "that cough" has continued, and given me much trouble, as well as the poor little patient and anxious mother. I will admit that in some of these obstinate cases of cough I have prescribed a little whisky or brandy with sugar and water added, to the great relief of my patient as well as to my own comfort.

As to the question of local applications, I am also willing to admit that on some occasions, and perhaps I may say many, I use the whole list of poultices from flaxseed to the new antiphlogistine. Where there is great syndosis, and the blood is loaded with carbonic-acid gas, pure oxygen administered judiciously may be of great value and save our patient's life. There are a number of simple appliances on the market now by means of which oxygen can be used very easily. In closing, I would emphasize the importance of perfect sanitary conditions. The room should be kept thoroughly ventilated and the air warm and moist; where it is possible have a good trained nurse attend to every detail as you would in a case of typhoid fever or diphtheria. Do not discharge your patient too soon and trust to luck that it will make a perfect recovery. You should see your patient occasionally until every vestige of the disease has disappeared and perfect health has been restored. I emphasize this because too often in infancy and early childhood a bronchial catarrh will develop into an acute attack on slight provocation, and leave a fertile soil for pulmonary trouble in later life.

The Auxiliary Treatment of Bronchopneumonia in Children—Hygiene, Apparel and Diet.

By Wm. E. Leonard, M.D.

Upon reviewing the treatment of this disease in any modern allopathic text-book one is most impressed with the great emphasis put upon adjuvant treatment and the slight belief manifest in drug action, the latter amounting to absolute skepticism. For instance, Thompson in "Practical Dietetics" (D. Appleton & Co., 1895, p. 445) says: "The mortality at some seasons of the year and especially among debilitated or alcoholic patients is very great, and *since no known remedy can limit the disease,* it is exceedingly important to maintain the strength of the patient, etc."

In contrast with this, in our Homœopathic text-books—at least some of them—is the meagerness of advice concerning auxiliary treatment and the emphatic stress put upon the right remedy. This is as it should be in works devoted to our special therapeutics, still the thinking, practical physician can gain much worthy and perfectly proper aid to his remedy by studying auxiliary treatment, as under the headings of this paper, *i. e.,* hygiene, apparel and diet. The proper relation of adjuvant treatment to the indicated remedy is illustrated to my mind by the following figure. Let a virgin tract of forest land waiting for the uses of man represent a state of disease in an individual. The first clearing of the forest, stumps, underwood and brush is the part performed by hygiene and proper apparel; the leveling of the ground, the filling of swamps and the formation of a hard road-bed for the new pathway is the part diet plays; while the crowning consummation, the passage of the steam-engine or motor along the glistening rails, corresponds to the triumphant course of the Homœopathic remedy when following the shining law of Hahnemann. With this figure in mind, the relation of our topics to the whole will not be confused.

I. *Hygiene.*—I quote freely from Wilson's "Applied Therapeutics," from Thompson, above noted, and other authorities as suiting my purpose.

The proper hygiene and nursing of a sick child should be the conscientious thought of the practitioner because his little patient can neither reason nor complain, and especially because even more depends upon this in the undeveloped stage of childhood, when disease spreads as fire in tow, than in more mature life and therefore more seasoned tissues. The ideal sick-room is large, sunny, airy and well ventilated. Direct sunshine or drafts should be provided against by screens or blankets pinned up. The temperature for bronchopneumonia should be carefully kept between 70 and 75 F. as strict limits. Many a life has been sacrificed, especially after the critical stage has been passed, by the sleepy attendants allowing the temperature to fall to 60 or below—the younger the child, the greater this danger. Convalescence is often impeded by too marked a change in the air currents at night, the cooler air serving to irritate the inflamed passages and undo all progress made during the day. It is also well to have the air moistened by the evaporation of water in the room, whether the heat be by steam, furnace or stoves. This can easily be accomplished by a little ingenuity, and is very grateful to the patient. If there be a steam radiator in the room, a small stream of steam can be conducted through rubber tubing to the bed near the patient's mouth, with great relief of the dyspnea in severe cases. Noises in the sick-room distract children fully as much as adults. Prof. Wilson very pointedly says: "Three or four chattering gossips, especially if they be of the mysterious, whispering kind, in the sick-room of a child will do more harm than both physician and nurse, be they ever so skilful, can do good."

Part of the hygienic care consists in cleansing the little patient's mouth with mild boric-acid solution or some good antiseptic wash, using a soft bit of muslin, fresh each time, and a soft brush. The bowels must be kept open by glycerine enemata or suppositories at least every other day, although the medication may sufficiently control this matter. I see no harm in an occasional tablet of mercurius dulcis, IX, for this purpose, since the necessity of promptly carrying off the mucus swallowed daily is obvious.

The nurse should be enjoined to offer the child plenty of fresh cold water, for the old-fashioned but sensible reasons given by Wilson, as follows: "Water is antipyretic, diuretic and diaphoretic; it calms the nervous centers, cools the blood, carries oxygen to the embarrassed lungs, and comforts the little sufferer as nothing else can."

II. *Apparel.*—This is an item in treatment too often overlooked. Sick children are restless and capricious in their positions in a sick bed, especially when made hot and uncomfortable with fever, and

therefore should be clothed in light "combination" flannel suits so that exposure is impossible. In this sort of night-dress they can wriggle and kick all over the bed without danger. And it should be a bed rather than a crib or cradle in order to allow frequent change of place, "a new, cool spot." Again I quote from Prof. Wilson: "A crib or cradle is cramped and uncomfortable, soon gets hot and stuffy and holds out a constant temptation to 'rock the baby,' and thus add another element of wear and tear to the disease itself." It should be unnecessary to add that a hair mattress is the ideal bed, although feathers may be admissible if well covered with blankets or quilts. It is best to change the position of the child occasionally, but not to tire it unnecessarily. The sicker the child, the more stupid it becomes from carbon dioxide in the blood, the less constant should be its position upon the back. Careful carrying in the strong arms of a fresh attendant, with all precaution in coverings, will greatly aid the breathing and prevent hypostatic congestion of the lungs. And, if carefully done, in such severe cases, gentle rubbing of the chest—*i. e.*, friction of the respiratory muscles under the clothing, will also comfort and aid. These usages cannot be intrusted to every attendant or nurse, but should be under the direct supervision of the physician, lest an overworked heart be suddenly stopped by too sudden or violent change. Perhaps this is the proper place to speak of the use of poultices. Not one nurse in ten, even with experience in handling children, can so renew a poultice as to avoid chilling the chest, and moreover, the best nurse will often delay changing a poultice until it is cold enough to produce harm rather than good. I would avoid all this by a "pneumonia jacket" made with an old undershirt or muslin waist well fitted to the chest upon which is loosely quilted at least half an inch of cotton batting, the cotton being placed next to skin and best covered with oil-silk if not flannel. This does not require changing and keeps the chest sweating gently and constantly. Once a day at least, the chest should be sponged off underneath this jacket with tepid water to keep the sweat-glands open.

III. *Diet.*—I find one authority, Dr. Charles E. Page (*New York Medical Times,* February, 1899), who takes the following ground, so radical that I give it for what it is worth before giving usual practises in pneumonia. "The importance of withholding food absolutely until the crisis is past, the patient convalescent and actually hungry, cannot be overestimated. There is absolutely no possibility of digestion and assimilation in any case of high fever. It can be truly said that in every such crisis the entire energies of the organ-

ism are fully engaged in the work of reducing the local lesion and in the elimination of foul matters; hence every particle of food ingested is certain to do harm by fermentation, putrefaction and blood poisoning, without the slightest compensating influence. Feeding in all such cases is unphysiological and tends to increase temperature and to aggravate every bad symptom; while fasting and free water drinking promotes comfort, prevents all danger from indigestion, tympanitis, ptomaine-poisoning, and all the rest of it, and tends strongly to the speedy abortion of the attack."

The true aim of feeding in all acute diseases of childhood should be to foster the strength and tax the digestive organs as little as possible. The stated interval between food should not ordinarily be longer than two hours. The food should of course be liquid, milk being the ideal liquid food for the critical stage of the disease. This may be varied by peptonizing—a process for which I find little use in children—by the addition of egg-albumen, or carefully cooked and strained oatmeal gruel, or, if not too sweet to the taste, malted milk, which is always ready and easily prepared. Rice gruel or plain beef or mutton broths and ice-cream also afford variety. It ought not to be necessary to defend homemade ice-cream as a sick food. Frequent trial of it in this and other ailments of childhood has convinced me that it is too often forgotten and almost never harmful when given in reasonable quantity. Fruit juices, as lemonade, orangeade, "raspberry shrub," frappe, and simple ices flavored with pine-apple, etc., are certainly grateful, in alternation with the regular food, and usually work no harm. Only occasionally are koumiss, matzoon and like preparations needed, and I would taboo all that contain liquor in any form, except as temporary stimulants. The average text-book recommends brandy or some form of alcohol as a necessity in this disease in the routine treatment. I have never seen the need of it, and conclude that it use arises from lack of confidence in the remedies.

Superiority of Homœopathic Methods in Bronchopneumonia of Children.

By Harvey B. Dale, M.D.

The title of this paper implies that Homœopathic treatment is better than any other in bronchopneumonia occurring in childhood. Such, indeed, I believe is unquestionably the case. It is true that the statement is a broad one and will no doubt be vigorously objected to by our friends of the dominant school—but the facts are with us. Homœopathic treatment is superior to all others, and this for two great reasons: First, it is scientific and accurate, as evidenced by its being substantially the same as laid down by all Homœopathic authorities; second, statistics show that it is productive of better results.

Even a cursory reading of Homœopathic authors will satisfy one of the truth of our first contention. These authors confine themselves to comparatively few remedies, the indications for the employment of which are clear cut and precise. On the other hand, other writers differ widely on the proper methods to be pursued in cases of this kind. Their drug treatment ranges all the way from the most heroic dosage to practical therapeutic nihilism. As Pepper aptly expresses it, in the "American Text-book of the Diseases of Children," "it is difficult to lay down fixed rules for treatment in a disease in which so much depends upon the actual extent and nature of the pathological changes and upon the reaction of the patient." In other words, all depends upon how sick the patient is and how much he can stand. True—but cannot the same be predicted of any acute disease under the sun? What is to be gained by this sort of empty philosophizing?

Pepper's range of treatment is as broad as that charity that "covereth a multitude of sins." It embraces cathartics, expectorants (both nauseating and stimulating), sedatives, tonics, antipyretics and some other things difficult to classify. Of cathartics, however, he says that "it must be remembered that gastro-intestinal irritation is apt to complicate the case, and nothing must be done which might

invite its occurrence." While advising opium as a sedative he wisely adds that it "should never be given with such freedom as to benumb the sensibility, and in the later stages of the disease should be avoided if possible." As antipyretics he mentions antipyrin, phenacetine and aconite, but waves the red flag by saying that their use "must always be most cautious, and the first indication of general depression would call for the immediate withdrawal of the medicines." To the attentive reader this suggests the cheerful state of mind that must be enjoyed by the physician while endeavoring to steer his patient between the Scylla of death from pyrexia and the Charybdis of death from phenacetine.

Jacobi is no less prolific in his mention of measures and medicines that may be needed and then again may be worse than useless. Of the antipyretics he remarks, in his epigrammatic way, that they "have more frequently lowered temperatures than they have saved lives." Digitalis he condemns. Alcohol he uses with caution, in the later stages only. Of opium he says that its employment early is a bad habit, for "rest should not be bought with death." He refers emphatically to what he calls "the routine treatment with strychnine, digitaline and aconitine that was imported a few years ago," saying of it that "it is easily perceived that it finds its indications like a ready-made coat which fits many, but not all, and would not be worn unless first tried on. But, a coat is not so easily believed to fit everybody as is a newly eulogized treatment."

Tyson, one of the latest writers upon this subject, is much more conservative than his predecessors. He says that "nauseating expectorants are rarely demanded and often do harm by lowering the vitality of the young patient." He recommends tincture of aconite in small but often repeated doses. The antipyretics he does not mention, but refers favorably to sponging and the wet pack, saying concerning the temperature question that "the child does not die of the effects of high temperature, but rather finally, of a failing right heart." He thus unconcernedly demolishes the foundation that has supported the use of the coal-tar derivatives, bringing the whole superstructure crashing down with it. In fact, this destroying of idols characterizes the whole medical literature of the past few years. One ambitious writer or investigator constructs and carefully elaborates a theory, only to see it reduced to débris and *dejecta membra* by his equally ambitious colleague.

Homœopathic treatment of bronchopneumonia has been essentially the same for a hundred years. A few well-indicated remedies have borne the brunt of the attack. As Tooker says of them,

they are "not very numerous, but are wonderfully effective." Every practitioner who has had an opportunity for thorough test will unqualifiedly endorse this statement. The number of remedies likely to be needed under any circumstances falls short of a dozen, and of these four or five are all-sufficient in at least seventy-five per cent. of all cases. It is unnecessary to mention these remedies, which are familiar to all of you. The object in calling attention to them is to bear out the assertion that Homœopathic treatment is scientific, accurate, has stood the test of time, and is, therefore, superior to any other yet advanced.

As to our second contention, that Homœopathic treatment is productive of better results, the testimony of prominent authorities as to prognosis in this disease is interesting and timely. In most instances the prognostic view of these authorities is doubtless founded upon hospital statistics and case-records accumulated upon a large scale, and therefore represents the essential experience of the dominant school in the malady under consideration. Pepper says: "Bronchopneumonia is always a most serious disease, the mortality ranging from 30 to 50 per cent." Tyson gives substantially the same figures. Loomis places the mortality in children under five years of age at one in five. Green in "Quain's Dictionary of Medicine," gives similar figures. Niemeyer regards the prognosis as very grave. Jurgensen, in "Ziemssen's Encyclopedia of Medicine," quotes interesting figures given by several different authorities, the sum total of which places the average mortality at 48.3 per cent. He further says that "those whose experience is chiefly in the children's hospitals in large cities make even a worse report." He then states that in the Foundling Hospital in Paris, out of 128 newly born children attacked, 127 died. In Prague the mortality is given as two-thirds of all cases. It must be stated in further explanation, however, that Juergensen's reports include all cases of bronchopneumonia, regardless of antecedent disease conditions. It is a well-known fact that pneumonia following any of the zymotic diseases is more fatal than that originating *de novo*. But even with the most favorable construction the mortality-rate is sufficiently appalling.

Experience warrants the statement that the death-rate in cases treated Homœopathically is much lower than has been given. Goodno states positively that "under Homœopathic treatment the loss is certainly less than ten per cent." Experiments upon a large scale in Homœopathic hospitals in Paris showed the percentage of mortality to be from five to six. Tooker reports twenty-two cases, the average age being two and three-fourths years, with a total death

of three, or 13.6 per cent. Upon my own books I have a record of thirty-nine cases, of whom two died. The average age, however, was three and one-fourth years. It is generally accepted as axiomatic that the younger the patient the more doubtful the prognosis. The two patients that died were both under two years of age and both were practically moribund when first seen. One had been sick several days, and at my first visit had a pulse-rate of 160 and respiration of 70. The other was already developing cerebral trouble that proved fatal in a few hours.

An interesting phase of the question before us is the outlook with reference to the continuation of the disease, the occurrence of complications, and the probable condition of the patient after the attack has spent its force. What is the prospect along these lines under Homœopatic treatment? Dr. Crawford, in "Arndt's System of Medicine," makes strong claims that the length of sickness is shorter and that all symptoms are milder under Homœopathic methods. He is speaking of pneumonia in general, however, but what holds true of this disease in all its phases certainly should be true of any one of them. Doubtless every Homœopathic physician feels individually convinced that Dr. Crawford's claim is a justifiable one. It is nevertheless a fact that its demonstration is very nearly a practical impossibility. Statistics on this point are almost valueless. There are so many modifying circumstances to be considered in cases of this kind that to attribute to any drug or drugs or to any system of medication the results accomplished is unreasonable if not wholly untenable.

Whether or not complications or unfavorable developments of any sort are less common under Homœopathic treatment is also a difficult matter to determine. I am not aware that any investigations have been undertaken along this particular line. If there were such, they must, to be of any value, be conducted upon a colossal scale. Upon general principles, however, it might be reasonably inferred that under treatment calculated to be injurious of itself, complications would be more likely to occur. Thus under the use of opium, recommended in one breath and condemned in the next by many of our learned opponents, cerebral involvement might certainly be favored. Nauseating expectorants, by lowering the patient's vital resistance, might naturally be expected to also increase the probability of complicating developments. The same might conservatively be said, in a less degress, of nearly all the medicines employed by our adversaries. It would appear that Pepper builded better than he knew in basing his prognosis upon the patient's power

of reaction. There are times when that power must be sufficient to overcome both the disease and the medicine.

As to the probable condition of the patient after having gone through bronchpneumonia, there can scarcely be room for a difference of opinion. When that patient has had Homœopathic treatment he is certain, other things being equal, to be physically better than he could be after taking any of the drugs commonly used by our opponents. The minimum dose of the attenuated remedy does its work quickly, silently and well—and it never leaves behind it a drug intoxication or depression or disease to be overcome afterward. No statistics appear to be needed to cover this point. Common sense is all-sufficient.

To epitomize, Homœopathic treatment of bronchopneumonia is the better because, as was said in the beginning of this paper, it is the more accurate and scientific and it secures the better results. I think enough evidence has been given to demonstrate all this. It is impossible within the limits of this paper to go into further details, but any one who cares to follow the matter up for himself will find the trend of facts all one way. Placing allopathic authorities side by side will promptly establish even more than we have claimed concerning the chaotic condition of their treatment. Statistics gathered from any source will show the equally unsatisfactory effects of that treatment. This is not theory, it is fact. Whenever the Homœopathic profession calls attention to these things, however, it is met with the retort that figures are notoriously unreliable. In this there is some truth; but in the present state of human knowledge we can do no better. Experience founded upon bedside tests is our only guide. Such experience, as has been stated previously, is invariably favorable to the Homœopathic treatment of bronchopneumonia.

REPORT

OF THE

SECTION IN OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

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Reflex Disturbances Caused by Eye Strain.

BY E. H. LINNELL, M.D.

Many functional nervous diseases are recognized to-day as reflex neuroses, that is, as caused by an irritation existing in some remote organ and transmitted through nerve channels, which are sometimes devious and intricate, to the part where the symptoms are manifested.

The tendency of specialism is to produce narrowness of view and bias the judgment. The claims of overzealous enthusiasts in one department or another, who would have us believe that all nervous affections and even organic lesions are caused by irritation in some organ or tissue to which their attention has been exclusively devoted, have resulted in many useless and even harmful operations, and have led others to underestimate the influence of such reflex irrita-

tions. A careful investigation and weighing of evidence notwithstanding, brings the conviction that many cases are thus induced, and teaches the progressive and careful physician to consider all possible sources of reflex disturbance in the elucidation and treatment of obscure nervous affections. *Tolle causam* is a maxim of prime importance, and nothing is more unscientific than for the Homœopathic physician to content himself with the mere matching of pathogenetic and clinical symptoms, ignoring the modern means of exact diagnosis.

The object of this paper is to direct attention to the eye as a frequent and often unrecognized source of nervous strain resulting in varied forms of functional nervous disorders. I shall illustrate and emphasize my arguments by cases coming under my own observation.

Headache is perhaps the most frequent form of neurosis resulting from eye strain. A very large proportion of chronic headaches are due to this cause, and often the individual is unconscious of any visual defect or difficulty of using the eyes. This is so well understood and recognized that any extended remarks are unnecessary. A single striking instance may, however, not be without interest.

Miss M. J. B., a school teacher, about thirty years old, had suffered since childhood with very frequent and severe headaches coming on at irregular intervals, especially after any excitement. The pain usually commenced in the right temple and extended in all directions over the head. She described it as a steady, constant ache, aggravated by light or noise, but not worse at any special time of the day. When unusually severe, the headache was attended by nausea. Her general condition seemed excellent. Careful examination showed the heart and kidneys to be entirely healthy. Appetite and digestion were good, and all functions seemed to be regular and normal. Before consulting me she had for a long time given up any treatment for her headaches as altogether useless, and relied upon antikamnia or similar palliatives during an attack. After all other probable causes for her suffering had been eliminated, she very reluctantly submitted to an examination of her eyes, declaring that she never had any inconvenience from using them, and that she was convinced that they were all right, and that there was no possible connection between the eyes and the headaches.

Vision of each eye was $^{15}/_{15}$, and the lines on the dial were all seen with equal distinctness, but both the ophthalmoscope and the ophthalmometer indicated the existence of astigmatism.

Under paralysis of accommodation by scopolomine V.O.D.= $^{15}/_{100}$; with +1.75 Ds=+.50 Dc 90° V=$^{15}/_{15}$ and the lines were again uniformly distinct.

V.O. S.=$^{15}/_{100}$; with +1.75 Ds=+.75 Dc 90° V=$^{15}/_{15}$ and lines distinct. Previous to using scopolomine there was an esophoria of 4° in distant vision, and an exophoria in accommodation of 3°. After recovery from the influence of the drug she accepted only +.75 Ds with each eye in addition to the cylindrical lenses, and there was then an esophoria of 3° in distant, and an exophoria of 2° in near, vision. While the effects of the scopolomine were passing off, that is, while the accommodation was imperfect, she suffered severely with headache. Spherocylindrical lenses according to the last examination were prescribed for constant use. These did not correct the whole error of refraction, but she could not at once voluntarily relinquish the tension of the ciliary muscle to which she had all her life been accustomed, and therefore vision with the stronger lenses was indistinct.

No relief of the headaches followed the use of these glasses, and prisms for the relief of the lack of muscular equilibrium were combined with them, and again we were disappointed. She very reluctantly persisted in wearing the first glasses for four months, during which time remedies were prescribed with some benefit. At the end of this time she accepted the lenses, which corrected the whole error of refraction, as disclosed under the influence of the cycloplegic, and the headaches vanished permanently as soon as she commenced to wear them.

All medicine was at once discontinued, and as an evidence that the glasses cured her and not the medicine I wish to state that on one occasion when she was obliged to go without them for a couple of days the old headache immediately returned with great severity. To use her own language, "I thought I should have died, and am now thoroughly persuaded that you were right and that my eyes were the cause of my headaches."

This patient had a splendid physique, and endured the long nervous strain remarkably well. Other persons of a less vigorous constitution or of a neurotic temperament would undoubtedly have developed neurasthenia in some form. It needs no argument to convince any physician of the depressing effect of severe and long-continued pain, and if the influence of eye strain is admitted as a factor in the causation of chronic headache, I think it will also be readily admitted that it may be an indirect cause of general nervous exhaustion, with its attendant and varied symptoms, such as insomnia, neu-

ralgia, indigestion, malnutrition and disturbed function of various organs.

Did time permit, numerous cases might be cited in illustration; but I have more important and convincing testimony to offer as to the injurious effects of eye strain.

Those who have followed me thus far will smile with incredulity when I assert that even insanity may be thus produced, but I offer the following bit of personal experience in support of my assertion.

Mr. J., about thirty-six years old, and a lawyer by profession, had for several years in succession suffered recurrent attacks of mania. These attacks came on during the latter part of summer and lasted several months. They were characterized by intense physical restlessness, insomnia, irrational talk and profanity, to which he was not addicted in health, a disposition to make extravagant gifts to indifferent persons, unusual and foolish behavior, moroseness, suspicion and destructiveness. On one occasion he chopped a hole in the floor of the parlor, and on another he commenced to knock down the supporting pillars of the house in the cellar. During one or two attacks previous to his coming under my observation, he had been treated by Dr. N. Emmons Paine of West Newton, Mass., whose diagnosis was recurrent mania, and whose prognosis was repeated attacks for years.

He was first brought to me for examination and treatment in September, 1897, during the initial stage of his annual attack. I endeavored to make a thorough and exhaustive examination of his condition, both mental and physical, in the hope of discovering some hitherto unsuspected cause for his malady. The result was that I detected a slight nephritis, a moderate fulness of the retinal veins as shown by the ophthalmoscope, and a hyperoptic astigmatism with a slight hyper-esophoria. The examination of his eyes was very difficult and unsatisfactory owing to his mental condition. Of course the use of any drug to paralyze the accommodation, which would have been most desirable, was absolutely contraindicated, and his own statements of visual acuity were not altogether reliable. After several trials the following glasses were prescribed for constant use, viz.:

+.75 Dc 90° with prism 10 up O.D.
+.75 Dc 90° O.S.

His diet was restricted to non-nitrogenous articles as far as possible, and I gave him remedies under the advice of Dr. Paine for about two weeks. At the end of that time it was deemed unsafe

to keep him longer at home, and he was taken to Dr. Paine's Sanitarium. The latter wrote me: "It seems to me your examination of his eyes and fitting him with glasses will be helpful, and whether it will prevent a recurrence of the maniacal condition next year is a question I should like to see solved by time."

He improved rapidly and came home in the latter part of November. He had not then perfectly recovered, but seemed to be entirely well soon afterwards. He continued under my observation and recovered completely from the nephritis as was shown by repeated chemical and microscopic examinations.

In March, 1898, he had scarlet fever, and during the following August he had a very severe and protracted malarial fever, with a temperature which at times reached 105 degrees, but he has never had the slightest return of mental alienation. In spite of his serious illness last year was the only year since his first attack during which there has been no recurrence. His family tell me he has continued perfectly well and more natural than for many years.

It seems reasonable to attribute his recovery to wearing the glasses, because he has taken no medicine for the mental condition since returning from Dr. Paine. I have several times examined his eyes since, but have made no change in my original prescription. It does not seem probable that the nephritis was an important factor in causing the maniacal attacks, for it was never severe and it was not of long standing, the casts being few in number and of the hyaline variety. The mental affection evidently antedates the nephrites.

It is unquestionable that epilepsy is often a reflex neurosis, and while I am not one of those who believe that it is always due to eye strain, yet in the case which I am about to report it undoubtedly was thus caused, and the relief which followed the correction of the error of refraction was so striking that it seems deserving of record.

It was that of a young man about twenty-two years old who first consulted me two and a half years ago. For five or six years previously he had epileptic seizures of increasing severity and frequency, which commenced while he was going to school. At first there was simple vertigo, but later genuine epileptic convulsions developed, with unconsciousness and followed by deep sleep. These attacks recurred frequently, sometimes several times in twenty-four hours. He was treated by an old-school physician for some time and later by a Homœopathist, but derived no benefit from either. He became so nervous and apprehensive that he never

left home under any circumstances. On one occasion he was persuaded to take a drive, but before going a rod he became so nauseated and generally used up that he was obliged to return. He is an intelligent fellow and told me he had always thought there was a connection between his eyes and his "nervous attacks," as he called them. He expressed himself as follows: "When through over-excitement I experience one of the nervous spells, instantly objects assume a hazy aspect and remain in that condition until my nerves are quieted. Again, if through reading or writing I overtax my eyes, my nerves are immediately affected and remain so for a day or two until my eyes are thoroughly rested." He could only read a few minutes at a time without vertigo and distress in his head, which lasted for hours.

The examination of his eyes was necessarily conducted at his home and without a cycloplegic, to which he strongly objected.

The result was as follows: V.O.U.=12/15. With +.12Ds⌒+ .50 Dc 90° O.D. and +.25Ds⌒+.50Dc 90° O.S.V.=12/10 each eye and radiating lines were uniformly distinct. Careful examination by various tests failed to detect the slightest hyperphoria. There was an exophoria of ½° for distance and of 6° in accommodation. Owing to extreme nervousness and easy fatigue the strength of the individual muscles was not tested. Spherocylinders as above were prescribed for constant use, and the result was most satisfactory. I saw him six months later when he was a changed man. His expression was bright and animated, his eyes were clear and bright, and he was able to use them freely without inconvenience of any sort. He had entirely recovered from his nervousness and apprehension, went about freely and fearlessly, and had engaged in business. He has had no convulsions since commencing to wear the glasses, now two and a half years ago. Once in about three months he has, always during the night, a very slight, scarcely appreciable tremor, but no loss of consciousness and no deep sleep.

Perhaps an examination now might reveal some uncorrected refractive error which would remove this faint suggestion of his former attacks, but he experiences no inconvenience from them, goes to business daily and is to all appearances a perfectly well man.

Since the improvement was immediate and permanent, and since he has taken no medicine or received any other treatment, I think it is fair to conclude that the epilepsy was caused by eye strain, and was cured by correcting the ametropia. It seems also evident that the exophoria was not an important factor in the case and was

probably dependent upon the error of refraction and not upon any abnormality in the muscles themselves or their attachments.

The obvious and logical conclusion from the study of such cases as those narrated is, not that all cases of epilepsy or all cases of functional nervous disorders are caused by ocular affections, but that many nervous troubles are of reflex origin, and that even such serious maladies as epilepsy and insanity may sometimes be cured by removing a source of irritation existing in some remote organ. If this is admitted, as I think it will be by most thinkers, then it becomes the obvious duty of the physician to investigate every source of possible reflex influence by the aid of all modern means of diagnosis in the elucidation of an obscure case.

That eye strain very often plays an important rôle in such cases does not seem strange when we remember how complex is the faculty of vision and how varied and intricate are the nervous activities which it involves. The first requisite for binocular single vision is that an image of an object shall be formed upon corresponding portions of each retina. Otherwise, the two retinal impressions cannot be blended into a harmonious single perception, and diplopia results. In order that the image may fall upon corresponding retinal points, it is essential that the functional integrity of the four recti, and the two oblique muscles, by which the harmonious associated movements of the two eyes are secured shall be unimpaired. This means uninterrupted and harmonious innervation along the lines of the third, fourth and sixth nerves, proceeding from physiologically intact centers, which preside over and regulate the ocular movements. The normal exercise of the faculty of accommodation is also essential to perfect vision, as well as the unrestrained movements of the iris, thus calling into exercise other fibers of the third and the sympathetic nerves. Supposing these factors to be physiologically and anatomically perfect, and the dioptric media to be transparent and of proper refractive power, the conduction of visual impressions along the optic nerve must be unimpaired, and the visual centers must be in healthy condition in order that the impressions thus received may be converted into intelligent perceptions of form, size and color, and that accurate conceptions of the nature, distance and position of objects may be obtained.

When we remember that during our waking hours the eyes are in constant use for either distant or near vision, and when we consider the close application required of the student, the professional man, the bookkeeper and the skilled mechanic, we are in a position to realize the amount of nervous energy which is thus called for,

and to appreciate the strain resulting from any abnormality of structure or function in the visual apparatus, and the influence which such a severe and constant strain exerts in the development and maintenance of functional neuroses. Undoubtedly their predisposing cause resides in a neurotic temperament, inherited or acquired. When such a temperament does not exist, such generally recognized exciting causes as dental irritation, helminthiasis, sexual irritation and strong mental impressions, such as fright, excitement or sudden grief will not be sufficient to precipitate an attack, and the same is true of errors of refraction and muscular inequalities.

From the foregoing remarks, supported by the cases narrated, many more might be cited did time permit; the assertion seems warrantable that eye strain should be included among the exciting causes in persons of a neurotic temperament, and, therefore, a careful and thorough examination of the eyes should never be neglected in any chronic or obscure nervous disorder.

Discussion.

Charles M. Thomas, M.D: The object in the few words which I have to present is simply to enlist, if possible, the interest of the general practitioner of the society—the society generally—in the discussion of the papers of this bureau.

I believe that Dr. Linnell has rendered this society generally a distinct service in calling up for discussion the subject of reflex neuroses. The character and source of the functional disturbances of which he speaks should claim at the hands of all physicians more serious study than has, until comparatively recently, been accorded them. Not only are these affections distressing in themselves, but they not infrequently lead to the development of more serious conditions. We have much to learn in this direction, and it is only by a careful, broad investigation of these so-called "minor ailments" that we can hope to come to better understanding and differentiation of functional and organic diseases and remove the many obscurities that still surround the subject. Although the paper is prepared by a specialist, it should, I think, appeal most particularly to the general practitioner, as the previous speaker has already said, as it is the general practitioner and not the specialist to whom these reflex phenomena will be most often presented and who will more particularly be called on to give them their proper weight in both diagnosis and treatment. We specialists, as the writer of the paper has indicated, too often fail to see in such symptoms indications of disturbance outside of our own particular domain, though we know that the various neuroses, even those bordering on actual pathological states, may be set up by irritation or disease of almost any of the viscera. Unfortunately we are not yet in position so far as

I know to distinguish with certainty the sources of various neuroses by their location or character alone, and indeed it often appears that the focus of irritation is not confined to any one organ or locality, but is distributed through several—thus pain in the occiput or spine, confusion and dulness in the head with vertigo, palpitation of the heart, digestive disturbance, nausea and vomiting and perhaps actual loss of weight may be due to eye strain, uterine disease, gastric disturbance, or renal affection. I recall the case of a young girl who suffered from irritability of temper, excessive nervousness, sleeplessness and nausea, who developed epileptiform seizures, and who was for months apparently quite well following a cure of obstructive dysmenorrhea. A return of the symptoms in spite of normal menstrual functions led to a very careful regulation of diet and further relief for a very considerable time, when almost the identical condition again presenting, a permanent cure followed the adjustment of a refractive error. Treatment directed to these reflected or transferred symptoms alone will be found as a rule to be quite fruitless and we can hope to favorably influence them only by removal of measures applied to the more or less remote causative lesion or lesions. Is it not, however, too often the case that we content ourselves with gathering and arranging the symptoms irrespective of their origin and endeavoring to match them with similar ones from the materia medica? And after all it seems to me the burden of responsibility must fall on the general practitioner before whose judgment these cases are first brought, and on whose acumen depend the sifting of the symptoms, to first determine whether the case is one of functional or organic disease. It is for him to determine whether the symptoms presenting depend on demonstrable structural changes in the organs or parts which seem to originate them or are due to a functional disturbance of some perhaps remote organ; and here we have to bear in mind that there is every conceivable gradation between the obviously functional and the pronounced alterations of organic disease. Having excluded organic changes, it again falls on the general practitioner to trace in every possible direction the remote source of irritation. It is for him to know, as well as the ophthalmologist, that pain in the forehead and occiput, with or without nausea and vertigo, may point to some derangement in ocular function. He, as well as the gynecologist, must know that lumbar and thigh pains with vertex headache and even such remote symptoms as neuralgia of the wrist and heels, perhaps may indicate ovarian and uterine lesion; that spasmodic cough and attacks of violent vertigo may result from pressure of cerumen on the drumhead, and so on, and finally it is he who will know the welfare of his patient who will require the services of a specialist to carry out particular lines of investigation and treatment.

I trust, Mr. Chairman, that the Ophthalmological section this morning may have the benefit of listening to a free discussion of Dr. Linnell's paper from the standpoint of the general practitioner.

LIBBEY HAMILTON MUNCIE, M.D.: This has been a most in-

structive and interesting paper; not so much to the oculist, because the oculist has seen such results, but to the general practitioner and the specialist in other branches, for we are all inclined to see only our specialty. It seems as though the profession will never learn that we are dealing with an intricate machine and that it is a complex machine, that one part is indeed dependent on the other. That is why I say this paper is especially instructive to those who are not oculists and especially to the general practitioner, because every one has in his practice patients suffering from certain nervous conditions and chronic diseases which they cannot overcome. He dreads to send that patient to a specialist, because he does not know whether to send him to an oculist, nerve specialist or gynecologist; he does not want the responsibility of advising a consultation with another, for fear the patient will not get well. The reason is, specialists are a little too narrow. If the gynecologist and oculist were a combined specialty, there would be many more cures accomplished and much trouble saved. As specialists we can never be perfect until we are better anatomists and physiologists. Every nerve-fiber and filament must have some specific work. It has a special distribution and it has a special function, and until we are able to trace forward and backward cause and effect we must meet with failures.

The first case mentioned by the reader of this paper was that of headache, and in all the other cases you probably noticed the patient gave no direct evidence of eye-strain; while another patient will come and say: "My eyes ache when I awaken in the morning; it is hard to open them; vision is not perfect, or my head aches when I am at the theater or watching a speaker." All three of these cases indicated long-continued nerve-tension, long-continued nerve-waste, especially the latter two, and the final outcome was the applying of glasses to relieve the nerve-strain, and the patient was cured.

In regard to that recurrent insanity, which I believe that most of our nerve specialists will say is seldom and sometimes never cured, those who are doing gynecological work have seen "circular" insanity cured. Here is a case just before us of long-continued nerve-strain. I think perhaps also, if we could get the history of that man's case from boyhood to the time the mental condition appeared, we probably would have found that he needed attention to the prepuce in his boyhood and probably some attention later on; but these conditions, I think, become alleviated in manhood and puberty, and, therefore, he got relief from many neurotic symptoms which appeared before that. In such a case we all know that irritation from the pelvis, either in man or woman, produces trouble with the eye and especially spasmodic troubles with the eye. In cases of this kind I consider that many times there is established a nerve muscular tension which, when the first cause of that is relieved, is unable to be overcome, the habit cannot be broken and the oculist has to step in and repair the damage. It might have been relieved in childhood by a little bit of proper surgical work.

In the case of epilepsy—the last case mentioned—we had there

a more direct evidence of cerebrospinal disturbance, but because the cerebrospinal said, "I am hurt," the sympathetic had suffered.

It seems to me in the study of all these cases that if we will consider the pathological condition of the upper and lower gateways to the body—the eye, the gateway of light; the nose, the gateway of odor, the ears, and so on—we will see that the sympathetic nerve-supply commingles with this and that the cerebrospinal is more abundant with the openings of the body. It behooves us never to leave any case unexamined. It seems to me that if the specialist in any branch, when he has finished his work and finds that the patient has not recovered, instead of saying, "There is no hope for you," but sends that patient to the next specialist, it would be a better procedure. Do not let us think that we "know it all"; so many times that is done, and it is altogether wrong.

JOHN L. MOFFAT, M.D.: Headaches which run in families, *i. e.*, which are inherited, are due in all probability to some slight congenital trouble with the eyes—most commonly to astigmia.

Now as to this last word. Dr. Georges Martin[1] has called attention to Rev. Dr. Whewell's error in giving the name astigmatism to that condition of the eye in which parallel rays of light or rays emanating from a point are not focussed in a point because the cornea is flatter in one direction than it is at right angles to that meridian. We should call it astigmia, from the Greek α, and στιγμη, ης, which signifies a point in the sense of a mathematical point (as aphonia comes from α and φωνης). Dr. Whewell formed his word from στιγμα, ατος, which means a puncture or a dot that has been pricked.

Let us, therefore, as educated, scientific members of a learned profession take pains not only to use the correct terminology ourselves, but to teach opticians, patients, nurses, and fellow-practitioners to say *astigmia,* not astigmatism, and *astigmic,* not *astigmatic.*

A MEMBER: Axel Key, of the Swedish Commission, in his report calls chlorosis, nosebleed, headache and myopia true *school diseases.* The astonishing increase in morbid conditions in the schools of Sweden and Denmark were, according to the writers of the report, chiefly due to the rapid development of nervous disorders and to failure in eyesight. Among the morbid conditions observed were muscular twitchings, chorea, stammering, mental dulness, habitual headache, insomnia and melancholia, curvature of the spine, anemia, neuroses of the heart, derangements of the digestive organs and imperfect or arrested development.

I have had copies made of three of the fourteen charts this report contains, showing the ratio of increase during the first few years of school life in three morbid conditions—myopia, headache and nervous disorders.

In the latter it will be noted that there is a drop in the line indi-

[1] *Annales d'Oculistique,* March, 1895.

cating a decrease in ill-health at a certain age. This is explained by the fact that after two- or three-years' strain the feeble or sick children, unable to keep up in the race, drop out of the classes. Those who continue to graduation represent the fittest who have survived in the struggle.

The Treatment of Acute and Chronic Suppurative Otitis Media.

By Howard P. Bellows, M.D.

I am allotted a few brief minutes in which to read a paper upon the treatment of both acute and chronic suppurative inflammation of the middle ear. Futhermore, I am requested to make my presentation of this subject as interesting and as valuable as possible to my colleagues engaged in the general practise of medicine. Both the time allotment and the avowed aim of this paper, therefore, preclude the presentation and discussion of many points which would be of particular interest to specialists in this department of medicine: such, for instance, as the topical use of some of the newer agents like formaldehyd, nosophen or antinosin; or the results obtained by the so-called "hot air treatment," or by the various modifications of the "wick treatment." These, and other interesting procedures, are still in the experimental stage and I, therefore, beg the indulgence of any aurists who may be present while I turn from these newer and more novel topics to the older and better attested modes of treatment which have come to rank almost as certainties of aural practice.

I am constantly reiterating the fact that no practitioner can properly treat aural cases without suitable ear specula, a good head mirror, an adequate source of illumination, and a certain amount of easily acquired experience in the practical examination of the drumhead and external auditory canal. The character, the intensity, or the location of the pain in a beginning aural affection is not sufficient to enable the physician, however experienced or competent he may be, to even diagnose the form of middle ear disease which he is to combat without an actual specular examination of the parts involved. The suffering of the patient may be intense, while the drumhead shows no trace of congestion or inflammation or any deviation from a strictly normal aspect. Such is a case of aural neuralgia, pure and simple, and a prompt recognition of this fact will not only facilitate the treatment but may also relieve the mind of much anxiety. With precisely similar pain the drumhead may be

found violently injected and inflamed. Here it is desirable to determine as soon as possible, by inspection, whether we are dealing with an acute catarrhal inflammation, in which it is advisable to try and preserve the membrane intact and seek resolution without perforation; or whether we are in the presence of an acute suppurative inflammation, where it is important to promptly incise the drumhead and promote immediate evacuation of the purulent contents of the middle ear. In the absence of a speculum, or the ability to properly use one, it is a safe piece of advice, in all cases of doubt, to regard the pain as belonging to an acute inflammation of the middle ear, rather than to a neuralgic affection. The reason of this is that should the case be inflammatory the opportune moment for aborting the inflammation will not be lost, thus averting the serious consequences to follow, while should it be a neuralgic condition the loss of time in adapting the correct treatment can only entail a few more hours of discomfort upon the patient, at the very most, without any destructive tissue changes resulting from the mistake.

Now in regard to this matter of aborting the inflammatory process. If there is ever an instance in medicine of the truth of the old adage about "a stitch in time saving nine" it is in the initial treatment of inflammatory states of the middle ear. Furthermore, I believe that in our particular school of medicine the adage is especially applicable. I am very confident that in our practise a smaller number of such cases go on to mastoid involvement, and subsequent operation, than in any other system of practise with which I am conversant. If this assumption is true I explain it chiefly by the application of our remedies, both internal and local (but more especially their internal administration), at the very beginning of these affections, when they are in their earliest, incipient stage. Local measures are quickly applied in the old school, but the speedy internal use of the appropriate remedy in these cases I believe to be characteristic of our Homœopathic school of practise. By the appropriate remedy I do not mean the administration of some general antipyretic or some opiate, but the exhibition of some remedy which acts more specifically upon the part and tissues involved, and which has a more definite and particular application to the morbid process which is commencing.

There is no one remedy which can be exclusively used in such cases, but oftener by far than any other I have come to rely, in my experience, upon *belladonna*. In these earliest stages it is not necessary to differentiate between an acute catarrhal or acute suppurative

inflammation before choosing this remedy. In fact, when our first prescription is made such differentiation would probably be an impossibility. Of the indications for *belladonna* little need be said because they are so familiar to all Homœopathists. The local appearance furnishes no very characteristic indication; it is simply an acutely inflamed drumhead in any of its stages. But in the attendant symptoms of the throat, head, eyes and pulse we find the characteristics of the remedy most apparent. In addition to this we have, on the clinical side, the well attested power of belladonna to retard the suppurative process. In its administration it is my custom to prescribe it internally in one of the three lowest attenuations, according to the age and susceptibility of the patient. The ears are simply covered and kept warm in the simplest cases, but should the attack be severe in its onset I lay great stress upon the early local use of the remedy, in addition to its internal administration. This I do by dropping two or three drops of the mother tincture of belladonna upon a loose bit of absorbent cotton, pushing it gently just within the external meatus, applying over this a hot salt bag, not more than four inches square, and over all a warm, dry flannel. This procedure may be repeated every hour, if necessary, and rarely fails, in my experience, to be of marked benefit if applied sufficiently early. The use of the rubber hot water bag for this purpose is much less satisfactory because the surface heated is too large. The heat must be more localized. The pouring of hot oils in to the ear in this, or any other, stage I consider most reprehensible, especially if it be the ordinary sweet oil which is used. The relief obtained is doubtless due, in most cases, to the heat alone, while the pasty mass which is often formed with accumulated earwax is most undesirable in an inflamed ear, covering the drumhead and shutting it from view. It is sometimes so greasy and resistant to water that its removal becomes a difficult and painful process, while the ear rapidly becomes foul if it is not removed. Furthermore, should the pain and inflammation be due to the presence of the aspergillus, the fungus parasite which not infrequently invades the ear, the addition of oil would promote its growth, and the trouble resulting from it, as nothing else could do.

As another internal remedy which seems to arrest, in its earlier stages, middle ear inflammation *aconite* has a claim in a small percentage of cases, but I rarely use it. The only other remedy which I find really vying in importance with belladonna is *ferrum phosphoricum*. This is sometimes of the greatest service and the predominant symptom which calls it to my mind is a strongly marked,

localized pulsation within the ear—a pounding or hammering which is synchronous with the pulse. One little patient, who was greatly helped by this remedy remarked to me that her ear seemed like "a little machine."

Should these measures fail to check the inflammatory process, and the case is of a suppurative nature, the pain soon becomes greatly intensified because of increasing tension upon the drumhead from accumulating secretion within the middle ear. Here the proper treatment becomes surgical, and consists in a free and prompt incision through the drumhead, preferably in the posterior inferior quadrant, or through the area of greatest bulging if that is visible. Should the means of making this incision not be at hand, the spontaneous rupture of the membrane may be promoted by gentle hot irrigation within the canal, maintained ten minutes at a time, at short intervals. The application of poultices over the ear for this purpose cannot too strongly be condemned, because of the maceration of the canal and other local evils which they induce.

After the incision, or the spontaneous perforation, of the drumhead if the pain continues and the discharge seems inadequate, the internal remedy to be chosen is *hepar sulphur,* the leading indication for which is a scanty discharge associated with distinctly localized tenderness. The local measure to be conjoined with this consists in continued hot irrigation, repeated for ten minutes at a time, every hour or two. Now, however, the water which is used for this purpose should be previously well boiled, and it is wise to add to it as much boric acid as it will dissolve—say a heaping teaspoonful to the pint. If at this stage the mastoid region begins to become painful and tender to pressure the hot irrigation is all the more demanded, and may sometimes be continued by night as well as by day; the patient, if not already in bed, should be sent there; the incision in the drumhead, unless free, should be enlarged or repeated, if means are at hand, while the local application of cold, steadily maintained over the mastoid region for hours, becomes the most important factor of all. This is best applied by the so-called Leiter coil, which is devised for this purpose and provides for the steady circulation of ice water around and back of the ear. Cracked ice in a small, soft rubber bag, or in a bladder, will serve the purpose, held continuously back of the ear, but not over it. The hot irrigation within the canal may continue while the cold is maintained without. For internal medication I return at this stage to *belladonna* in the lowest attenuations, or, on the failure of that, I try *capsicum* of the third or fourth decimal dilution, freshly made

from the tincture. After thirty-six or forty-eight hours, at longest, if the case is not plainly improved and the local tenderness upon deep pressure over the mastoid greatly diminished, the coil should be removed lest it cloak serious symptoms and mislead the observer. The probability is that the proper opening of the mastoid will then be imperative, and only the aural specialist can accurately determine the urgency of this in doubtful cases. Many a life has been needlessly lost by an error in diagnosis at such a time or by a failure to realize the destructive and dangerous character of disease at this point. It must not be forgotten that in some of the worst cases of mastoid involvement the patient at this stage complains of no pain and the clinical thermometer shows no rise whatever in temperature. Continued tenderness upon deep pressure over the mastoid process is now a symptom of the gravest import, and nearly, if not quite, equal in importance to this is a sagging of the posterior, superior wall of the external canal, close to the drumhead, which is seen by examination through the speculum. It is not alone in the unfavorable progress of acute cases that this mastoid involvement occurs, but still more frequently in the acute exacerbations of chronic cases. Fortunately, however, the percentage of cases, of either kind, where this occurs is very small in comparison to the more orderly ones which go on, under proper treatment, to complete recovery.

In ordinary cases of acute inflammation, after the discharge through the drumhead is established, patients recover very satisfactorily under the internal action of one of two remedies, either pulsatilla or mercurius, conjoined with the proper cleansing of the canal from accumulating pus. The leading indication for *pulsatilla* seems to be a profuse, bland, yellowish or greenish-yellow, mucopurulent discharge. The temperamental characteristics also aid in its selection. The discharge when *mercurius* is indicated is more apt to be excoriating and sometimes offensive or even bloody, while the characteristic perspiration calls additional attention to this remedy. The local cleansing is best done by repeatedly swabbing the ear gently with absorbent cotton, wound upon an applicator. A wooden toothpick will serve sufficiently well for this purpose if the end is properly covered and guarded with the cotton. In some cases syringing may be necessary, for a few days, if the pus is very stringy and tenacious, but as soon as dry cleansing is sufficient for the purpose the progress will be more satisfactory. Just here is another warning to be given. It used to be considered good practice to forcibly inflate the ears with the Politzer bag, or have the

patient practise self-inflation, for the purpose of expelling the pus from the middle ear through the perforation in the drumhead. This is now known to be hazardous. It should never be done at this stage of the disease because of the danger of forcing some of the pus into the *aditus ad antrum,* thus speeding bacteria on their way to the mastoid. Later on, when the discharge is nearly or wholly stopped and the deafness is the prominent feature of the case, it is of the utmost importance to inflate the ear properly. It is here that the various methods of aural massage come into play in restoring the hearing, when it is left decidedly defective. This is the work of the specialist, however, as the apparatus required is seldom found outside of the specialist's office. There is still one of our internal remedies which can be administered at this concluding stage with much advantage to the subsequent hearing, and that is *kali muriaticum.* I think all my colleagues will bear witness with me to the efficacy of this remedy for this purpose.

Not all cases of acute inflammation of the middle ear recover as promptly and uneventfully as the "ordinary ones" of which I have been writing. If it were so the supply of chronic cases would run out—while in point of fact all aurists continue to have a large supply of this chronic class constantly on hand. These are largely cases which have either been poorly treated or not treated at all in their earlier stages. The keynote to success in the treatment of these chronic cases lies in the single word *cleanliness.* Without the rigid and persistent enforcement of cleanliness a cure in the majority of these cases remains an utter impossibility. They will be better at times but relapse again and again. The first requisite to cleanliness is drainage. Many cases have large permanent openings in the drumhead, but there are many nooks and crannies where secretions find lodgement and become inspissated, forming obstructions to the outflow of the fresher secretions, and thus a foul state is readily induced and maintained. This is especially the case if the perforation is through Schrapnell's membrane, in the upper portion of the drumhead. Carious disease frequently adds difficulties to the situation and granulation tissue and polypi form further obstructive masses. A clean sweep of the whole region, involving at times even the removal of carious ossicles and remnants of the old cicatrical drumhead, is the very first step towards the cure of the more inveterate cases. Of course this can only be done with the requisite degree of thoroughness by one skilled in aural surgery. Few general practitioners would care to attempt such interference in a region so full of dangers, but without it these more serious and

long-standing cases cannot recover. The more recent cases and those which have undergone less tissue change are simpler and safer to treat. Drainage is here sufficiently free without surgical measures, and the needful cleanliness is only a matter of thoroughness and a well-chosen method. Syringing is often an essential of treatment for a time, but should be dispensed with as soon as the necessary degree of cleanliness can be secured without it. The water should be previously boiled and the boric acid may well be added as in the syringing of the acute stage. Here another general rule must be stated with emphasis. All liquids used within the ear by syringing, or by simple instillation, must be used warm. Nothing cold enough to chill should ever, under any circumstances, be introduced within the canal. Undue force in syringing is also to be carefully avoided. A complaint of dizziness by the patient during the syringing usually means either that the force is too great or the water too cold. Simple cleansing by syringing is usually inadequate. Some more active agent must be employed to follow and there is no one among all those now in favor which can vie with hydrogen-dioxide for this purpose. I rarely find a case in which it cannot be used with perfect freedom and in full strength. I allow it to remain within the ear until the foaming which it occasions has wholly ceased. Another agent which I frequently use after syringing, especially where there is redundance of granular tissue, is a saturated solution of boric acid in a mixture of equal parts of alcohol and water. After a few days this may sometimes be used with advantage in ninety-five per cent. alcohol. The various astringent solutions so much in vogue in old-school practise I have never found it necessary to employ, and mention them only to say that in my judgment they are to be condemned.

After all wet applications the ear must be very carefully and thoroughly dried with absorbent cotton. This brings me to the second requisite of success in the treatment of these chronic cases and that is embodied in the word *dryness*. First cleanliness, then dryness. All the most recent progress in local treatment lies in this direction. Hence the wick treatment with loosely packed strips of aseptic gauze, usually borated, which maintains cleanliness by constant drainage and promotes dryness at the same time. Hence the devices for forcing a continuous stream of hot air into the ear after cleansing. Hence the use of dry boric acid insufflated into the middle ear, and drying agents like aristol or the newest and most drying of all the iodine compounds, nosophen; even nosophen gauze

supplanting older forms for wicks because of its superior drying and antiseptic qualities.

So much for the local management of chronic suppurative cases. Now in regard to the internal medication, which I consider of the utmost importance. *Mercurius* is, with me, a favorite remedy. It is more frequently applicable to the chronic than to the acute suppurative condition. I prefer *mercurius solubilus* for this use, as also for suppurations in the external canal, my preference for catarrhal states being *mercurius dulcis,* especialy in those which involve the entire upper mucous tract—the nasopharynx, the Eustachian tubes and the tympanic cavity. I find *mercurius protoiodide* or *biniodide,* more effectual, however, in the more limited catarrhal conditions which seem largely confined to the Eustachian tubes, presenting a greater degree of tubal obstruction but less involvement of either the nasopharynx or tympanum. This observation in regard to the use of the mercurials is a digression. To return to suppurative disease. *Hepar sulphur* is often useful in chronic as well as in acute forms at the beginning of a course of treatment. *Calcarea sulphurica* has helped me many times in cases of long standing. I am led to its use by the persistent continuance of a purulent discharge after drainage is amply provided for and everything would seem favorable to cessation. There is also a tendency to excess of spongy, granulation tissue. Silica is of the first importance in long-standing cases where the bony tissue has become carious and the discharge is thin, foul and often scanty. Its most satisfactory results are obtained in scrofulous, nervously irritable, poorly nourished children. Repair of the drumhead, after the cessation of suppuration, is undoubtedly promoted by the action of this remedy. I have had considerable clinical evidence that in cases where silica has been the main dependence the progress has been hastened by putting the patient, two or three weeks at a time, upon the *silico-fluoride* of *calcium,* the socalled *lapis albus. Aurum* has its distinct applicability where there is a specific taint with involvement of bony tissue. There are certain conditions of the discharge itself which call our attention to some other remedy than those which I have mentioned—as the peculiar, tenacious, stringy mucus which makes us always think of *kali bichromicum;* or the thin, ichorous secretions with an odor like fish pickle, which has led me to the choice of *tellurium* on several occasions with apparent benefit to the patient. Other remedies are in good repute, but those to which I have referred are those which have stood me in good stead in my own practical experience and I am sincere in the assertion that

without the aid which I know I receive from the Homœopathic remedy, internally administered, in the treatment of cases of acute and chronic inflammation of the middle ear, as well as in many other forms of aural disease, I should be loth to continue the practice of my specialty.

Discussion.

E. W. Beebe, M.D.: The essayist is to be congratulated on so completely outlining the treatment to be employed in these diseases, in the brief time allotted to him, upon either topic of which a book might be written without exhausting the subject.

In the main I heartily agree and acquiesce in the treatment suggested, but upon a few minor points our experience differs, some of which may be briefly considered.

It is generaly conceded that sudden colds are the cause of fully one-half of the cases of acute inflammation of the middle ear, and the exenthematous diseases are largely responsible for the other.

This being admitted, remedies covering the catarrhal and inflammatory conditions of the early stages would largely precede those more specifically indicated at a later period.

Aconite in the outset then must certainly be more generally appropriate than any other remedy, and in my experience it meets the chills, restlessness, fever, dryness of the throat, and burning pain in the ear, which symptoms frequently usher in an attack.

The indication for the use of belladonna, I believe, comes later in the disease, and is to be prescribed more particularly for local congestions with cerebral excitement, and with bright red, raw or swollen fauces, engorgement of the tonsils, etc.

With the frequent administration of aconite in the first or second dilution, and the patient kept quietly in bed with hot applications to the extremities, and painful parts, until the skin becomes moist, the disease may be aborted in a large per cent. of the cases.

It is not, I believe, a difficult matter, and it is exceedingly desirable, that the physician be able to differentiate between a purely nervous or neuralgic affection, and an acute inflammatory condition of the middle ear, the one being seldom accompanied with fever, or by any marked symptom of systemic disturbance, while the other will be attended by a rise of temperature, tenderness on pressure over the ear, or mastoid region, sore throat, with hissing, rushing or other abnormal noises in the ear.

Another point for more special consideration is the pain which attends the greater number of these cases; there are probably but few patients who can be induced to bear intense suffering frequently experienced, without demanding something more potent for its relief than hot or cold applications, however assiduously they may be applied.

Inflation relieves some of these by equalizing the pressure on the drumhead, but something more than this is required, and nothing in my hands has proved so efficient as the tincture of plantago shaken in glymol, a few drops of which may be warmed and dropped

into the ear. Should this fail to afford the much desired relief, as it sometimes does, cocaine may be added in sufficient quantity only to anaesthetize the parts affected, the proportion necessary being about four grains to a dram of plantago, and one ounce of glymol; cotton may be saturated with this and pressed loosely into the external ear, and repeated as occasion requires.

The local use of aconite, belladonna, veratrum viride, or any other drug with which I am familiar, is less useful than is plantago alone or in combination with cocain.

The local application of ice-water, as suggested in the paper, I believe a doubtful expedient in domestic practise, the use of which in the absence of a Leiter's coil, or other efficient method of constant application, in the hands of the ordinary nurse, is objectionable, and more harm than good is likely to come from its employment.

The method is applicable to a limited number of cases, but often, as Gruber says, "it increases cerebral hyperemia and increases signs of cerebral mischief." I would, therefore, restrict it to hospital use or only where the services of trained nurses are available. Following a time-honored precedent, the essayist endorsed the use of the syringe in the treatment of these diseases, but without explicit directions or words of caution regarding its use in the hands of those unaccustomed to the care of such cases.

It is probable that this was an oversight, for no one knows better than he that, as ordinarily used, it is attended by great danger and open to serious objections. In fact, I am not certain but that its use should be discouraged in aural practise, as there is probably no conceivable instance where it is imperatively demanded, and the most painful and dangerous aggravation of ear disease has been known to follow its use in the hands of experts. It is an instrument which now for several years has no place in my armamentarium, save for the removal of foreign bodies, cerumen, etc., from the external canal, and then only in comparatively normal conditions of the drumhead.

It is generally understood by the laity and many of the profession as well that syringing an ear is the correct thing to do in all painful or diseased conditions of these organs, which is undoubtedly to be deplored, as the probable injury inflicted by this instrument in the hands of others than the most expert cannot be estimated. Some of the objections to the use of it may be briefly considered. Water applied to a healthy drum membrane which is accustomed to contract with nothing save atmospheric air, is exceedingly disagreeable and undesirable and has not infrequently been known to induce a myringitis. If then, the healthy drumhead is so greatly irritated by simple contact with water, what may be expected when the membrane is rendered infinitely more sensitive by reason of an acute inflammation and from having the water thrown more or less forcibly against it by the use of the syringe?

Its use is even more reprehensible after perforations of the drumhead where the fluid has access to a cavity lined with the most deli-

cate of membranes, where it probably also acts as an intruder and irritant.

Who also can estimate the danger incident to the conveyance of pus from the external ear or tympanum to the mastoid cells, which is not infrequently done when the instrument is in the hands of the novice? Inspection will probably reveal the fact that the majority of instruments commonly used for this purpose are of themselves normally in a septic condition, the decomposition of the vegetable or animal oils used by the makers to facilitate the action of the piston, and the swarms of bacteria which infest the moistened leather of which it is partially composed, precludes the possibility of their being sterilized, and rendered aseptic to that degree which warrants one in using them to cleanse a discharging ear. It is probable that the septic material contained in a new instrument is sufficient to infect and produce mastoid disease in favorable cases; then how much greater the danger of infection when the old, much-used and imperfectly cleansed instruments are employed, which are to be found in every household or surgeon's outfit. I have not for several years met with mastoid complications without being able to trace the cause to infection, or to bad treatment, and there is nothing, I believe, so calculated or liable to induce mastoid periostitis or disease of the cells themselves, as is the use of this instrument. It is altogether probable that there is not a natural tendency for acute inflammations of the middle ear to take on mastoid complications, but rather when the drumhead is perforated, and the pus discharged, the tendency is toward resolution and recovery.

It is a well-known fact that the soft structures of the posterior-superior walls of the external auditory canal are in continuity with those of the mastoid portion of the bone, and in this way an inflammation in the canal is very readily propagated to the periosteum covering the mastoid process.

Gruber says "that it is not an uncommon occurrence for a purulent inflammation of the lining membrane of the mastoid cells to result from a periostitis of the mastoid region, which has proceeded from an external otitis."

I have, therefore, come to believe after years of experience that the safety of my patients is enhanced by sticking closely to the similimum and paying but little attention to the local treatment during the acute stages of the disease.

The removal of pus with the probe and cotton, and the use of peroxide once or twice per day will be sufficient, the after dressings consisting only of dry pledgets of cotton loosely applied to the canal; this has such an affinity for moisture that it will effectually absorb the pus as fast as it accumulates.

Conscious, then, of the dangers of indiscriminate syringing in acute ear diseases, I may say in closing, that if it be deemed desirable to resort to the use of this instrument in special cases, nothing save a glass or metal fountain syringe should be used, which should be thoroughly sterilized by boiling, and elevated not more than two feet above the patient's ear, the head being strongly inclined to the

opposite shoulder. This will be likely to prevent the fluid from entering the mastoid cells in most cases.

Many remedies have been used locally with more or less satisfaction in such cases. My preference, however, is strongly in favor of pix cresol, it being an efficient germicide and harmless. But whatever is used it should be rendered as aseptic as possible and the utmost precautions taken to prevent injury or infection. With these exceptions, I most heartily commend the paper.

E. J. BISSELL, M.D.: When the specialists disagree, what shall the general practitioner do? There are two points in this that are certainly worthy of our very careful consideration. One is the opportune time for the incision of the tympanic membrane. The author of the paper did not go into any explanation as to the special advantages of such an incision. There are two or three. First, you can make the opening at a point which is most favorable to drainage. Nature does not do that uniformly. In fact, in a large number of cases it is too high up and not at the bottom of the tympanic membrane, and it is not favorable for drainage. Second, in these cases that come on slowly, the tympanic membrane often is thickened and the natural rupture is very tardy. Therefore, surgical interference very materially, in such cases, shortens the period of suffering. Third, the incision being made at the right time may prevent complications of the mastoid, especially in the cases where we have this tough tympanic membrane.

I believe that it was the doctor's intention to apply the continuous stream from the fountain syringe and not the interrupted stream from an ordinary syringe. The one point I emphasize in using irrigation is that the source of water supply be not higher than the patient's head. You thereby get a continuous current with no force to it. If a perforation does exist and you use irrigation, I have found that calendulated boracic acid is very beneficial. One other point, and that is the insufflation of boracic acid. The author referred to it. A few years ago it was the custom to fill the whole meatus with boracic-acid powder, and it was taken up by the general practitioner and is largely his practice to-day. I believe that it is bad treatment. I do not mean the blowing in of just a little powder, but the filling in the whole cavity; it often becomes dried down with the secretions and proves a source of irritation and I believe interferes in some cases with the healing of the perforation.

GEORGE W. MCDOWELL, M.D.: Dr. Bellows has left very little for me to do in the way of discussion by covering entirely the ground in his lucid and instructive paper. I can but endorse most heartily what he has so concisely stated, both in regard to diagnosis and treatment of a disease, the importance of which has been very greatly underestimated by the general practitioner, and even by the specialists themselves up to a comparatively recent date. The textbooks in otology of twenty years ago give but few hints of the dangers inherent in every case of suppuration of the middle ear, whether it be acute or chronic. During the past ten years the path-

ology of this condition has been thoroughly studied, and the danger of resulting brain abscess and sinus thrombosis has been clearly pointed out, so that at the present time every practitioner of medicine should be thoroughly alive to the great responsibility resting upon him in the treatment of cases of this character. Even acute cases under most careful handling occasionally go on to caries of the temporal bone, which may be confined to the tympanic cavity or extend to the mastoid portion of the bone. Chronic cases in probably a majority of instances owe their chronicity to caries of some of the bony structures of the ear, which often resists all forms of local and internal medication, yielding only to surgical treatment.

The fact that so many cases of chronic suppuration apply to the aurist for treatment, shows that either the acute condition was neglected, or that the treatment used was ineffectual. The object of Dr. Bellow's paper is to make clear the fundamental principles in accordance with which the case may be safely cared for by the general practitioner, and to point out the danger signals which should warn him to call for expert aid. The vast majority of acute cases are never seen by the specialist, and the patient naturally turns to his family physician for relief from the pain with which the acute attack is ushered in, if indeed he thinks it of sufficient importance to go to a physician at all, until the pain becomes unbearable, and the inflammatory process well established. It is just at this point that the family physician may do much for his patient's present as well as future welfare. Your patients should be given to understand that an earache from which a child may be suffering is not one of the necessary but harmless disorders to which all children are subject, like mumps and chicken-pox, which if left to themselves will result in a natural cure; but the earache means an inflammation of a most delicately constructed organ of special sense in intimate relationship with the brain, and neglect of such a condition in many cases results in lifelong impairment of hearing, in some instances even imperiling life itself; by urging upon patients the necessity for prompt treatment of the initial symptoms of otitis media, the physician can do unmeasured good by preserving intact the function of an organ which might otherwise be greatly impaired or entirely lost.

As Dr. Bellows has well said, it is of prime importance that every man who attempts to treat aural disease should be able to make an otoscopic examination, and so distinguish between an inflammation of the middle ear, an otalgia due to dental irritation, and a localized or diffuse inflammation of the external auditory canal. The symptoms of these different conditions may be almost identical, but the remedies most likely to relieve one of them might be valueless in the others. For the neuralgic state plantago is often helpful, but a dentist is usually the best prescriber for such a condition. While belladonna and ferrum phos. often abort an acute inflammation of the middle ear, they would prove of much less value in relieving pain if it arose from a localized inflammation of the canal than would calcarea picrata, which is here almost a specific.

I cannot fully endorse this statement of the author that the use of oils in cases of acute otitis media is always reprehensible. While recognizing the force of the argument as against its use when the aspergillus is present, which, by the way, is not very often, my individual experience with a four per cent. solution of cocain in benzoinol has been particularly gratifying. Dropped into the canal at intervals of fifteen minutes until relief is obtained, it has rarely failed to merit the confidence with which I have learned to rely upon it. Its action is twofold, for, while it relieves pain, it does so apparently by producing a partial ischemia of the drumhead, thus lessening the inflammatory action. After an experience of several years in many cases, I have never seen any symptoms of cocain poisoning, either in children or adults. The preparation which has proven most satisfactory is that made by the Benzoinal Company by some peculiar method which prevents precipitation of the drug, which has always occurred in many cases when the solution was made by a druggist.

If the acute cases are treated in the way that Dr. Bellows has suggested, there will be very few chronic suppurative cases as a result. This latter class is at present very much in evidence and must be taken care of. As has been said, cleanliness is one of the prime factors for success in treatment, and to attain this free drainage must be secured. When the perforation in the drumhead is too high to permit free exit for the secretions, it should be extended downward. In these cases, the danger is not that the artificial opening may become permanent, but that it will close before the discharge ceases, possibly requiring to be reopened. Cases of chronic suppuration which have resisted proper local and internal treatment for months should be regarded with suspicion. The continued discharge is likely to be due to caries of the ossicle (of which the anvil is usually first affected) or the walls of the tympanic cavity or the antrum. When the perforation is at the upper border of the membrani tympani, through which granulation tissue may be seen, the chances are that the head of the hammer is carious. Statistics have shown that it is exceedingly rare for the anvil to be unaffected when the hammer is carious. Such cases are usually uninfluenced by any method of treatment short of removal of both hammer and anvil. Where the destruction of the bone has extended to the tympanic walls a thorough curetting of the surface is demanded. If the disease has extended to the mastoid antrum, as happens much more frequently than was formerly supposed, then a radical operation which has for its object the complete removal of every vestige of diseased tissue is necessary, not only for the cure of the suppurative condition, but is absolutely essential as a prophylactic for possible brain lesions. Blind confidence in the curative power of remedies or of local applications to stay the extension of disease which affects cavities, inaccessible as well for the eye and the hand, often results in unavailing post-mortem regrets for what might have been, had we only known it.

The Use of Antitoxin in Diphtheria.

By George B. Rice, M.D.

The use of antitoxin in diphtheria as a subject for consideration at this Annual Meeting of the American Institute of Homœopathy seems to be a particularly good one—partly because of the interest awakened last year by Dr. Charles Gatchell's paper,[1] and again because this is one of the many therapeutic methods of the time, which the practitioners of our school must face as a body; must discuss and adopt, or reject, as seems wisest.

We should be liberal enough to first discuss the therapeutic action of antitoxin in its relation to diphtheria as a curative agent. Then if we find on careful consideration that it surpasses all heretofore used remedies in the treatment of this disease, we can more profitably endeavor to establish a relation between serum-therapy and Homœopathy as suggested by Gatchell and later by Baruch[2] and perhaps add another stone to the structure—the foundation of which was laid by the revered Hahnemann.

The methods of obtaining diphtheria antitoxin are familiar to all students of medicine and need not be considered in this short paper; but as a new therapeutic agent, it must, in its intrinsic nature and action appeal first to the intelligence of the seeker after truth, and its comparative safety be assured, before it can be seriously adopted for even experimental use in the cure of diphtheria.

We will then briefly study the drug from this standpoint before attempting to show its efficacy. It would seem that up to the present time it is not definitely known in what basic constituent its curative nature lies. We may site the same lack of knowledge in the action of some of the Homœopathic remedies, the chemical nature of which is known, but where the curative effect produced by dyna-

[1] "The Action of Antitoxins in the Prevention and Cure of Disease," by Dr. Charles Gatchell, American Institute Transactions, 1898. Page 188.

[2] "Relations of Antitoxin Treatment to Homœopathy."

mization is unknown, and therefore this ignorance need not be an obstacle to its further study.

Dieudonne's studies[1] show that the antitoxic body is not a globulin or an albumin, but an unknown body associated with those substances.

Another observer[2] believes that antitoxin is a chemical compound plus a vital principle. Behring has arrived at the same conclusion. Objectors to its use have claimed that if beneficial effects were produced by it, that these effects were occasioned by the introduction of carbolic acid, the substance used as a preservative. That this theory is untenable is proved by the fact that carbolic acid is only one of a number of substances used for preservative purposes; thus Roux used camphor, Behring, carbolic acid, Aronson, trikresol, and a preparation has been made by Milliken consisting of a dry powder to which sterilized water is added just previous to its use.[3] We know that antitoxin is contained in the serum of all animals suffering from diphtheria, and there is abundant proof to show that the drug does not act simply as a chemical neutralizing agent.

Antitoxin is not in itself an active poison. Rumno,[4] Winter,[5] and Armstrong,[6] have argued that alien serum possesses a globulicidal power upon the blood of animals into which it is injected. Physiologists[7] do not admit this as a fact excepting when intravenous injections are given, and even then only when large quantities of serum are injected.

Injections of antitoxin serum have been made for purposes of immunization in a very large number of cases without untoward results. An epidemic[8] of diphtheria occurred in St. Johnsbury, Vermont, in the latter part of 1897 and January, 1898. Two hundred and twenty children received injections of from two hundred to three hundred units (according to the age) of the serum furnished by the New York Board of Health, and in no case was there serious local or constitutional disturbance. Dr. J. H. McCollum,[9] resident physician of the infectious department of the Boston City Hospital, who bases his statements on the observation of over four thousand cases occurring between September, 1895, and May 1, 1898, be-

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[1]"Gould's Medical Annual, 1899. Page 1012.
[2]*N. Y. Medical Record,* April 30, 1896.
[3]Transactions of American Institute, '98. Page 190.
[4]*Wiener Medizinische Wochenschrift,* 1891. No. 19.
[5]Paper read before the N. Y. Academy of Medicine, April '95.
[6]*N. Y. Medical Journal,* April 13, 1895.
[7]*International Medical Annual,* 1896. Page 238
[8]*Medical Record,* Feb. 12, 1898. Page 22.
[9]Reports of the Boston City Hospital, 1896, 1897, 1898.

lieves that not only is antitoxin efficacious, but safe. He[1] mentions the various eruptions observed, and the joint pains sometimes produced, as occasionally sufficient to cause anxiety, but that they are not followed by serious results. Abscesses have in a few instances followed the use of the drug, but the number is so small as to hardly be worth considering. In another paper[2] McCollom says, "Antitoxin does not cause albuminuria, and it has no effect in producing heart complications. If abscesses occur after the injection of antitoxin it is a direct reflection upon the man who gives the injection."

Morrill,[3] visiting physician to the Children's Hospital, Boston, observes, "that in three thousand injections given for immunizing purposes, the only cases which I have seen when anything like dangerous symptoms appeared were those of a boy with splenic leucocythemia, and another with nephritis." From these observations he concludes, "that no harm will result from the treatment in a vast majority of cases of sick children, and probably in no case of a healthy child, provided the serum used be up to the standard of purity."

Allen Thomas[4] has recorded the effects of antitoxin upon one hundred and thirty-six children. In sixty-nine the temperature rose from one hundred to one hundred and three; but within twenty-four hours it had fallen to normal. The amount of reaction seemed to be in proportion to the youth of the infants and to their debilitated condition; the stronger and older children scarcely being disturbed at all. He draws the conclusion that the serum is comparatively safe when properly used.

Billings[5] has studied the condition of the blood-corpuscles in diphtheria in connection with injections of antitoxin. He finds that no deleterious effects upon blood-corpuscles are produced. It seems on the contrary to prevent degenerative changes which would otherwise be brought about.

Seibert and Schwyzer[6] express the opinion that sudden deaths reported as occurring after serum injections were caused by injected air, and not by antidiphtheritic serum.

Without doubt deaths have occurred which cannot be accounted for by injections of air into the veins. For instance, injected serum

[1] "American Text-Book of Diseases of Eye, Ear, Nost and Throat."

[2] "Antitoxin in the Treatment of Diphtheria," read at the Annual Meeting of the Massachusetts Medical Society, June 7, 1898.

[3] "For What Period of Time can Immunity from Diphtheria be conferred by a Single Injection of Antitoxin?" by F. Gordon Morrill, *Boston Medical and Surgical Journal*, March 3, 1898.

[4] *N. Y. Medical Journal*, June 15, 1895.

[5] *International Medical Annual*, 1897. Page 205.

[6] *International Medical Annual*, 1897. Page 206.

may have caused death by some property of its own, due to the presence of toxic bodies caused by decompositions of the albuminoid elements, or because of the added agent for preservative purposes; also, individual idiosyncrasies must be taken into account; but in view of the newness of the drug and of the necessarily imperfect preparations, it seems remarkable that the many thousand injections given have been attended by so comparatively few accidents. Cocaine has caused many deaths, ether and chloroform also, there is hardly an active drug in our materia medica which has not under certain circumstances caused death. Yet, because of the comparative safety of these agents we do not hesitate to constantly use them, believing that the great benefit obtained, and the many lives saved makes such careful use justifiable from every standpoint. We must conclude from the foregoing, then, that we are still in the dark regarding the exact nature of antitoxin—but that we have sufficient proof of its comparative harmlessness when used upon the healthy person to make its use upon the patient suffering from diphtheria as not attended by more dangers than accompanies the administration of any quickly acting remedy. Now—can it be proved that antitoxin is a specific in the larger number of cases of diphtheria? It has often been said that anything can be proved by statistics, and this seems to be the favorite way of those opponents of antitoxin in our school of expressing their reasons for their own disbelief in the efficacy of the serum.

Are these opponents consistent in basing their objections on these grounds? Are we not fond of vaunting the efficacy of our Homœopathic remedies by such clinical evidence? We are all familiar with the records made by Erdherr, Gaspar and Flieshmann of the Gumpendorf Hospital, Vienna, in 1849, in the treatment of pneumonia. We take pride in pointing to the results of Homœopathic treatment of the insane in those large institutions which have come under our control, and of the statistical report of Dr. Peck at the last meeting of the Institute.

[1]A well-known writer has said, "on the question of statistical records hangs the whole medical controversy of the last hundred years."

Ladies and Gentlemen,—how else can a given line of treatment in a given disease be proved of undoubted value? So in endeavoring to demonstrate to you, members of the Institute of Homœopathy, the necessity of using antitoxin in treating typical diphtheria, if you

[1]"Clinical Records," *N. E. Med. Gazette,* December, 1898, Dr. Conrad Wesselhoeft.

would fulfil the obligation which your patient has imposed upon you, statistical evidence must be the only form of evidence to which your serious attention can be asked. This evidence is so abundant that it is difficult to give even an idea of its many sources and of its convincing testimony, without using more space than has been allotted me.

There is abundant proof of the curative power of antitoxin from private as well as hospital sources. Laryngeal diphtheria has been dreaded above all forms of the disease because of its high mortality, and so the curative influence of antitoxin here seems more than ordinarily convincing.

[1]One of our prominent men in a recent article showing the negative side of the case is forced to admit that in laryngeal diphtheria our materia medica is weak and that, "here antitoxin seems to come in with really specific effect." Of seventeen hundred and four[2] cases of laryngeal diphtheria reported by four hundred and twenty-two physicians in the United States and Canada from private practise there was a mortality of but 21.12 per cent. when the serum had been used.

Northrup[3] says, "The results of intubation after the administration of antitoxin have been most brilliant." Whereas two-thirds of such cases died before the use of antitoxin, with it about two thirds recovered. This after a summary of the literature of 1896, 1897 and 1898 on the subjects of the treatment of diphtheria.

Waxam[4] reports twenty-nine consecutive intubations for diphtheritic croup with twenty-seven recoveries, all treated with antitoxin.

Lennox Browne[5] of London, one of the strongest opponents of antitoxin says, "it is not impossible that an anatomical reason could be given why the larynx when attacked with diphtheria is more susceptible of improvement under the serum treatment than the fauces," thus practically admitting the fact that the serum does influence laryngeal diphtheria favorably. Halstead[6] of the Women and Children's Hospital of Syracuse, N. Y., at the conclusion of a paper read before the Syracuse Academy of Medicine writes, "Laryngeal diphtheria in any epidemic is never mild, but has a mortality with intubation or tracheotomy of from seventy-two to seventy-six per

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[1]"Diphtheria Antitoxin Homœopathically Considered," by Martin Deschere. Read before the Homœopathic Medical Society of the State of N. Y., at Syracuse, 1898.

[2]Report of American Pediatric Society, 1897.

[3]*Sajous' Annual.* Page 607.

[4]*Arch. Ped.* Vol. XV., No. 3, 1898.

[5]*Journal of Laryngology,* December, 1896.

[6]*N. Y. Medical Journal,* June 12. Page 796.

cent.; in connection with serum, the mortality can be reduced to twenty-five per cent."

This statement is supported by extensive researches and by large personal experience. Equally favorable are the reports of the curative influence of antitoxin in diphtheria as a whole. Clubb[1] reports on six hundred cases of diphtheria; the first three hundred were treated without antitoxin, the last three hundred with antitoxin, other points of treatment being the same. The first series had a mortality of one hundred and fifty-eight, the last of sixty. Louis Starr[2] writes, "it seems almost superfluous now to mention individually the immense number of papers reporting series of cases treated with antitoxin, all giving favorable results. Berg[3] visiting physician to the Willard Parker Hospital, one of Winter's associates (Winter, it will be remembered has from the first denied the efficacy of antidiphtheritic serum), writes, "the convincing results obtained from the antitoxin serum have removed all doubt."

[4]The mortality from diphtheria in the City of Boston, from 1880 to 1894, was 30.75 per cent., while from 1895 to 1897 it was but 12.61. In Berlin[5] for the four years from 1890 to 1893 the percentage of mortality from diphtheria was 35.34; that for the four years from 1894 to 1897 inclusive when antitoxin was used the death-rate was 18.08. In Paris observations from 1890 to 1897 show equally satisfactory results as to the vast superiority of this treatment over all other methods heretofore known.

Harris[6] of London, in his quarterly return from a certain district, for the fourth quarter of 1898, says, that the mortality in diphtheria has been reduced to twelve per cent.; he further contrasts the mortality without and with antitoxin, the first from 1892 to 1894 inclusive, the second from 1895 to 1897 inclusive and finds a remarkable increase in the recovery rate. Goodno,[7] a physician whose conclusions are not to be lightly considered, says, "I now begin the employment of antitoxin as soon as I know or strongly suspect a case to be one of diphtheria." Munn,[8] Health Commissioner of the City of Denver, compares the mortality of diphtheria before the use

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[1]*British Medical Journal*, Oct. 23, 1897.
[2]"American Year Book," Gould, 1899. Page 620.
[3]*N. Y. Medical Record*, June 18, 1898. Page 865.
[4]"Antitoxin in the Treatment of Diphtheria," McCollom, June, 1898.
[5]"Antitoxin in the Treatment of Diphtheria," McCollom, June, 1898.
"The Antitoxin Treatment of Diphtheria," *N. Y. Medical Journal*, April 1, 1899.
[7]"Diphtheria Antitoxin," Read before Maryland Homœopathic Medical Society, October, 1898.
[8]Annual Report of the Bureau of Health of the City of Denver, years 1897 and 1898.

of antitoxin and since in his city as follows: between 1889 to 1894 inclusive, a mortality existed of 36.4 per cent.; between 1895 and 1898 inclusive, a mortality of 18.6 per cent. After analysis of this report, Munn concludes: "The moral is easily read and simply stated. Every case of diphtheria should receive the antitoxic serum as early as possible."

I have avoided quoting from the writings of those who base their opinions on individual experiences in private practice. Such deductions are unreliable and unscientific. I am aware of the fact that Kassowitz[1] in 1896 denied the truth of the deductions of those who presented mortality statistics from the larger European cities in favor of the serum;—that Soerensen[2] of Copenhagen, Winter of New York, Browne of London, and among our own men, Deshere, Allen, Hood, and I presume many others, have publicly condemned its use.

The fact remains, however, that there is at the present time such an overwhelming mass of positive evidence, that if one can believe that the efficacy of any medicine is demonstrable, then there is greater proof of the curative power of this single remedy over a definite pathological state than can be shown in the history of medical science. It is useless to argue that the cure of bacteriological diphtheria and not clinical diphtheria accounts for many of the favorable statistics. It seems almost equally unreasonable to contend that it is only laryngeal diphtheria that can be cured by antitoxin.

It is not claimed that we possess complete and final knowledge of diphtheria, or that we fully understand the nature, action, or proper use of antidiphtheritic serum; but the majority of earnest, thoughtful physicians believe that a remedy has been found for diphtheria which will cure the larger number of cases, quickly and safely.

Allow me to remind you that Hahnemann begins the "Organon of Medicine" with these words: "The sole duty of the physician is to restore health, in a mild, prompt and durable manner."

J. B. GREGG CUSTIS, M.D.: Under the influence of all that goes with a New York Alumni dinner, when one is ready to promise anything and is apt to feel that he owns the earth with New York as an adjunct, I promised to discuss Dr. Rice's paper, which you kindly put into my hands a short time ago.

Had I at that time fully realized Dr. Rice's position, I doubt whether I would have accepted the invitation, because if the Doctor's intention is to advocate (and advertise) a remedy after the administration of which a large number of patients suffering from diphtheria do not die, his paper is unanswerable. If he means that because of

[1] *Wiener Medizinische Wochenschrift*, No. 45 and 51, 1896.
[2] *Therapeutische Monatshefte*, July, 1896.

the possibility of accumulating statistics in favor of the treatment of the disease by that remedy on the ground that we must believe statistics, we as Homœopathists are to rest content and investigate no further, he does leave room for question, and for discussion. In one who rests his liberty to do anything and everything in the name of Homœopathy, upon the Hahnemannian aphorism that the whole duty of the physician is to restore health in a mild, prompt, and durable manner, the Doctor arouses not only skepticism, but pride, especially those who have gone further into Hahnemann's teachings, and who are able to find nothing in his writings which would lead the most sanguine of practitioners to expect to find a specific for any combination of symptoms, whether the name be dependent upon the presence or absence of a bacillus.

Let us now consider the statistics which the Doctor offers. In the first place, those diseases which are allied to diphtheria have, along with it, undergone marked changes in their manifestations, and prior to the introduction of antitoxin among the recognized remedies the death-rate was on the decrease. The percentage of fatality among the white people of Washington from scarlet fever and diphtheria during five years is as follows:

	Scarlet Fever.	Diphtheria.
1894	6.25	43.21
1895	3.66	30.84
1896	3.56	23.87
1897	.67	15.97
1898	2.72	13.56

In scarlet fever, the disease most nearly analogous to diphtheria and some times associated with it, you will notice a steadily declining death-rate, from 6.25 to 3.73 per cent., especially marked in the years during which antitoxin in the treatment of diphtheria is credited with a marked reduction in the death-rate of that disease. During the past winter in Washington there were many cases of scarlet fever, but the deaths were almost none, under any treatment. And in the last epidemic of smallpox here there were ninety-six cases, with but one death. In the scarlet fever, the cases were so mild that the diagnostic power of the physicians was often questioned. So that the matter of the death-rate in the doctor's statistics amounts to but little.

Again, let us consider with that what we are comparing the results of the antitoxin treatment. In 1887, the recognized treatment of diphtheria was stimulating by alcohol or tonics, generally potassium chloride with iron, quinine from habit, and local treatment in the form of swabbing, etc., *ad nauseam*. The antitoxin treatment is certainly many steps in advance of this. Dr. Goodno, who is quoted as an authority well worthy of our consideration, in his book on "Practice," copyrighted in 1894, gives as the remedies which have shown the best results kali bichr., bromine and chloride of lime. He now begins the treatment in every suspected case with antitoxin. His results now should be compared with those obtained when diphtheria was as diphtheria has not been since. He reports the treatment of

several hundred cases at that time without a single death, when following the methods which he considered, and which no one has ever denied to be strictly in accordance with Homœopathy.

Another authority, Dr. McNeir, a Homœopathist, and one also whose opinion is not to be lightly considered, tells us in 1881 that there is but one way to travel, namely, that surveyed and built by Hahnemann, to give the remedy which corresponds most nearly to all the symptoms—no gargles, no swabbing, no caustics, and no specifics.

THOMAS L. SHEARER, M.D.: The chairman of this section has requested me to represent the antitoxin side of the treatment of diphtheria conditions, not because I have ever appeared in public as a champion of it, but merely because somebody had to defend that view of the subect, in order to make the discussion more complete. As the time allowed for this purpose is short, I shall at once begin by asking your consideration of some figures, in addition to those offered by Dr. Rice. Dr. Kronlein states that since 1894 he has used antitoxin in every case of diphtheria that came into the hospital, with the result that the death-rate was reduced from twenty per cent. to six per cent. The Committee of Clinical Society of London submitted its report at the last meeting of its society, the general result of the inquiry being that in the cases of diphtheria treated with antitoxin not only was the mortality notably lessened but the duration of life in fatal cases was also prolonged. The injection of antitoxin was found to produce rashes, joint pains and fever in some cases. With those exceptions, no prejudicial action was observed in the series of cases investigated, even when large doses were employed. Rosenthal, in the *Maryland Medical Journal,* refers to a record of sixty cases of laryngeal diphtheria. Of these twenty-eight (being very serious) required intubation and thirty-two were treated without intubation. Of the latter, but one died; of those intubated, eight died. Had intubation been performed in the one which died of the thirty-two it might have been saved, as it died of suffocation. He concludes with the positive assurance that antitoxin has brought a remarkable change for the better in this destructive disease. These opinions are expressed by eminent and careful observers in different parts of the world who, independently of one another, have arrived at the same conclusion concerning the efficiency of antitoxin serum in the treatment of diphtheria. Personally, I have used it in a number of cases, with undoubtedly brilliant results. In one instance only urticaria followed, but it was of very short duration; in another, a high grade anemia persisted for weeks after the diphtheritic symptoms subsided, but it was impossible to decide as to the cause of it—whether diphtheritic, or from the antitoxin, or the result of a combination of these factors. Questions have arisen concerning the safety of this new remedy, and in reply I will say what any therapeutical agent which possesses the power of effecting such great changes in the pathological state of the human body cannot be employed without a certain degree of risk. But we should remember that we are dealing with a disease which, during epidemics, has swept away hundreds

of lives. And when we consider the thousands of people who have been treated with the serum and the diminished death-rate under its employment, there should arise no doubt as to the expediency of its use. The unfortunate failure of Koch's lymph should not be allowed to bias our views in this matter. It is not at all necessary to employ antitoxin in every (light) case of diphtheria (at first), as some of our remedies, such as the cyanide of mercury, spongia and kali bichrom. can and do bring about a cure; but, it is, on the other hand, well to remember that such an agent does exist, and if the disease does not show signs of yielding very promptly to the Homœopathic measures, I believe that antitoxin should then be used without delay. Again, in any case of great severity, in which all the symptoms are very pronounced and in which a considerable deposit is present, opportunities for the rapid absorption of the diphtheritic poison from the foci are greater, and it is more satisfactory at once to use the antitoxin serum, and then quietly consider whether we shall use our indicated remedies as well. Locally I always employ a gargle of alcohol (ʒii), powdered alum (grs. v.), and hot water (℥ii). The action of these ingredients is to coagulate the albuminous deposit and diminish the degree of absorption. Sometimes Marchand's peroxide of hydrogen, 2 to 3, may be used as a gargle or spray. These local measures diminish the horrid fetor and make the affected parts more comfortable.

Dr. Rice's paper offers incontestable proof of the efficacy of the serum treatment in diphtheria and simply voices the views expressed by Henderson of Sacramento, who says that, "antidiphtheritic serum has been proven to be specific in experimental diphtheria in animals, and the great majority of the profession accept it as such in man." This is essentially an age of progress, in which all medical men are greatly interested. Surgery has made enormous bounds; medicine is trying to do so, but owing to the natural, justifiable scepticism of all medical men, it is having a severe struggle. The profession has had so many useless, as well as dangerous, drugs put on the market that it is always on the lookout for a new imposition. However, when we do meet with a remedy which actually is endorsed by so many professional men from all over the world, whose reputations are at stake in so doing, I think that it is then time, at least, to consider its merits, if we cannot, without such investigation, employ it on the valuable, reliable recommendation of eminent men who have tried it successfully.

G. G. SHELTON, M.D.: I received this paper during my absence and could only give it attention on my way here, and so I am not prepared to speak as I would like to. Still I cannot agree with the paper, nor with the proposition presented, and it seems to me that the proposition is this: Are we ready to-day to abandon Homœopathy for the serum treatment? That is the question at issue. I am not prepared to take that stand. Granting all that antitoxin has done, how superior it may be to the method of treatment gone before, the question is as to the result—Is it a specific? Is it better than any other treatment? Is it a safe adjunct to Homœopathic treatment?

I am not prepared to say, but if the evidence is piled up against it with the rapidity in the next four years that it has in the last four, I think it will be a dead issue in that time. Statistics are aften misleading. Observation in Germany shows that under the antitoxin treatment the death-rate has gone up from thirteen to twenty per cent. Winters stated not later than the week before last—and you will find it in the Medical Record of May 27—that it had been demonstrated in the Willard Parker Hospital an absolute failure. What is the precise value of the serum treatment? If it is valuable, we want it. If not, we want to throw it out. How far can we rely upon statistics? It is shown that in all infectious and malignant diseases the death-rate has diminished in some countries from thirty to sixty per cent. where the serum treatment has not been used. Hence, we are misled as to the evidence producd by the serum treatment. Scarlet fever and typhoid fever, owing to prophylactic measures, have reduced the death-rate throughout the world from thirty to forty per cent. Why credit antitoxin with all the changes of that nature when in all other diseases the death-rate has diminished. I will only close with this word. I do not feel competent to give this matter that consideration which my own conscience calls for, and I am going to ask if my colleague, Dr. Allen, who has given this matter a great deal of attention, will not take the rest of my time. Sufficient it is to say this: When I enter a sick-room I want to go into that room feeling strong in my powers of relief, and I have gone into sick rooms with antitoxin and without it, and my experience is against and my feeling is against antitoxin! [Applause.]

T. F. ALLEN, M.D.: This has been brought upon me rather suddenly, and I must say that I am not prepared to discuss the paper which has been so ably presented to you, so well written and carefully prepared with statistics which I cannot furnish. I have not them at hand. But I will give you simply my impressions. As my friend, Dr. Shelton, has told you, I have given a great deal of thought to this subject for the last few years trying to define my own position to myself. I would say to myself, "If you are called to a malignant case of diphtheria (as I was a week or two ago), what are you going to do with it—with the antitoxin matter?" I have followed very carefully the statistics as published and the writings of many eminent men regarding their results. This much must be said, that antitoxin as compared with any treatment of the allopathic school is immensely superior. I say immensely superior, as seventy-five per cent. to twenty-five or twelve. It is superior to anything they can offer in the allopathic school. Now, cases in which I have been called in consultation and treated by local applications, by caustics, by surgical treatment of tearing of the membrane, and by local applications have almost uniformly been fatal. It is abominable treatment. It is not Homœopathic. Give us a little time, a few months, and we will show you some statistics from Germany and France. They have no use for it in Paris. It is not used in the Hospital of San J——, it is not used in London, and I have no use for it in New York, and I have had some experience, not

very large, but my own experience leads me to that opinion, that I have no use for serum therapy in diphtheria or anything else as compared with Homœopathy. My belief is—speaking in an off-hand way—that Homœopathy will show very great superiority, no matter what statistics as to serum-therapy are or anything else. Let me tell you what happened to me a few weeks ago. I was called to see a malignant case of diphtheria. The case was that of a feeble lady who developed on the second day albuminuria. She had very grave symptoms and it certainly was a case of malignant diphtheria. She was the head of the house. Her brother came to me and said: "Doctor, I am very anxious about my sister; I wish you would have Dr. So-and-So in consultation. I said: "I am not acquainted with Dr. So-and-so. Does your sister wish him in consultation?" "No, but I do." I said: "You are not the one to request that." At the next visit he came to me again and said that the family were very anxious to have this doctor in consultation. I said: "Have you spoken to the lady here?" "No; she is very sick." I said: "Yes; she may die in the next forty-eight hours. I can't guarantee that she will get well, but she is under my treatment and I decline a consultation with Dr. So-and-so. You can't have the consultation. She may die, but I will take the responsibility." He said: "The responsibility is very great." I said: "She is thoroughly Homœopathic and she is going to have it—it is live or die by Homœopathic treatment." She had straight Homœopathic treatment, no local applications whatever, and she got well. That is the courage of my convictions in Homœopathy. And every man in Homœopathy has got to face that. You believe in Homœopathy or you believe in something that is not Homœopathic. I stand by my flag and practise by it —[Applause] and when I go to a case of laryngeal diphtheria it may be intubation, cutting the larynx, but whatever it is, the patient takes his chances with Homœopathy. A patient is threatened with heart-failure; he can't raise his head from his pillow; he is getting cold feet and has a feeble pulse; the patient is going to die. I have no use for heart stimulants. I have use only for Homœopathy, and the case gets well. Stimulants will keep the patient's heart up for a few hours, and then the patient drops hopelessly. I tell you, gentlemen, you will find it true as gospel that just as long as you stick to your Homœopathy, so far as your life carries you, so far you will succeed against serum-therapy every time. [Applause.] I am very glad to have an opportunity of raising my voice and standing right by Homœopathy. I have no use for serum-therapy. [Applause.]

REPORT

OF THE

SECTION IN NEUROLOGY.

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The True Scope of a Hospital for the Insane.

By Selden H. Talcott, A.M., M.D., Ph.D.

The primary objects in the establishment of a hospital for the insane are:

(1) The seclusion of patients who may be dangerous to themselves or others for the purpose of protecting the community.

(2) The treatment and cure of mental invalids.

(3) The proper care and comfort of long-continuing cases.

The true scope, therefore, of a hospital for the insane is the proper retention of the duly-committed patient and the best and most successful curative treatment for each case. When curative measures have failed to restore the patient to health, then the most comfortable and humane care should be bestowed upon chronic cases so long as life may last. But the highest aim of all hospital authorities should be the exemplification of the most successful curative measures so long as the slightest hope of restoration remains. To this end we should consider not only the application of remedies for the cure of disease, but likewise the use of all means and measures which may tend to the growth and development and rebuilding of the immature and the emaciated in body.

Again, we should attempt to furnish in a hospital for the insane every possible consolation, and comfort, and hope, and inspiration to the human mind. The true hospital for the insane is not only a place where mental invalids may be cured of their maladies, but it is also a school for the education and development and growth of the untrained and erratic youthful mind. Moreover, it is a church for the restoration of lost hope and the stimulation of new faith in the recesses of the disordered and troubled soul.

The true hospital for the insane should be equipped with all possible facilities for teaching, educating and training the undeveloped bodies and minds of the young who have become prematurely the victims of insanity. Such an institution should be provided with a school, a library, an entertainment hall, and a gymnasium. There should be books, pictures, entertainments and exercise along the lines of athletic activities, soldierly maneuvers, and the exemplification of Delsarte principles. There should be hospital wards where rest in bed is afforded and where bodies are repaired with neatness and despatch by suitable nursing, by massage and Swedish movements, and by the inception of proper, nourishing and rebuilding diet.

The true hospital for the insane should have not only a medical superintendent and the usual medical assistants, but upon each hospital staff there should be a competent surgeon, an oculist, an aurist, a dentist, and a chiropodist. If it should be deemed inexpedient to have all these workers connected directly and constantly

with the hospital, the services of suitable specialists should be secured, as may be needed, from outside sources.

The wild, unrestrained activities of the insane have in times past caused them to be looked upon by those who are supposedly sane in an unreal and uncanny light. The ancients thought the insane were possessed of the devil, and they were treated as if they were devils. The modern scientific alienist looks upon the insane man as a patient suffering with some form of cerebral disease. It is some disease of the brain that produces all mental disorders and aberrations. Convinced of this fact, the modern alienist is seeking now to establish hospitals similar to those for the cure and treatment of other forms of disease. To this end the alienist seeks, first, a healthful and inspiring location for a hospital; and, secondly, he puts up a building with sanitary appliances throughout. The subjects of heating, ventilation, and cleanliness are all well attended to with scrupulous care. The wards are furnished with neat, attractive and esthetic appliances. The walls are painted with light and soothing colors. Over these are hung enjoyable and attractive pictures. The windows are draped with suitable and appropriate curtains. The floors are hard and polished until they are as sanitary as glass. Over these polished surfaces may be spread carpets, or rugs, or mats. These should be readily movable and thus easily kept clean. The furniture should be strong, and yet comfortable. There should be many lounges, settees, and easy chairs, in order to attract the nervous and excitable to conditions of repose.

In addition to these physical or inanimate comforts, the insane man should be placed in the constant and solicitous care of competent trained nurses and physicians. In a true hospital for the insane every patient receives as thorough personal and individual care, with regard to every bodily attention and condition, as a man receives in a general hospital when he is suffering with pneumonia or rheumatism. The insane man is treated as tenderly, with regard to his disordered imaginations, as the patient racked with rheumatic fever is treated with regard to his physical pains.

Nearly all of the insane when they come in from the community are found to be suffering with physical exhaustion and emaciation. This is owing to the intense bodily activity to which insanity sometimes impels its victim. Hence each hospital for the insane should have large reception wards in which newly admitted patients may be placed, and there they should receive at the outset profound rest and abundant diet. The invitation to the helpless and worn-out insane should be like that of the great Healer: "Come unto me, all

ye who labor and are heavy laden, and I will give you rest;" and a still more positive order should be issued if necessary—that of Macbeth's command to Seyton: "Get thee to bed."

These hospital wards should be in charge of the best and most experienced nurses that the institution can afford. Rest for body and mind, and repair of the physical structures are the principal means to be used in effecting the recovery of the insane. Every unnecessary activity should be dispensed with. Every kind of food that will most rapidly rebuild the wasted system should be supplied. Also, frequent and appropriate baths should be furnished to these restless, perspiring and disturbed sick people.

The hospital wards should be so freely supplied with pure air that when in one it seems like being out of doors all the time. There should also be an elaborate and abundant steam-heating apparatus, so that in cold weather the fresh air coming in may be heated to a comfortable degree before it can affect injuriously the patient.

The true scope of a hospital for the insane is to furnish everything that can possibly tend to restore to a normal state the body and mind of the mental invalid. Hence we should consider the location of the hospital, its construction, its ventilation, its water facilities, its drainage and its disposal of sewage. A large boiler-house, a large dynamo plant for lighting purposes, a large laundry and a large kitchen are all essential in a hospital where the authorities wish to cure the largest possible percentage of patients.

In addition to the physical facilities already referred to it may be proper to state that a true hospital should have good nurses and good physicians to care for the patients. To insure a reasonable supply of nurses there should be an efficient training school in each hospital, so that the young and the ignorant may be taught all the principles of good nursing, and under skilled directions they should receive likewise a practical training upon the wards.

Again, nurses and attendants upon the insane should receive much larger compensation than they do at present. This must be in order to attract the young, the strong, the capable, the intelligent and the ambitious to engage in the delicate and trying task of caring for the sick in mind.

It is interesting and yet distressing to note the differences of compensation which exists in different sections of the community where similar qualities and attainments are required. While policemen and guards in our penitentiaries receive from nine hundred to fifteen hundred dollars per year, the average attendant upon the insane (taking as large risks and requiring equal intelligence and

activity) receives, on the average, probably less than three hundred dollars per year. The wages paid to attendants and nurses who engage in the care of the insane are not sufficient to attract the ambitious, or to enable those who engage in the work to secure a competence for old age. What we need, then, in the establishment of an ideal hospital for the insane is a larger compensation for those who engage in the work involved.

It is proper to remark, also, that physicians who engage in this work should have a preliminary education in psychology and mental and nervous diseases before receiving an appointment; and they should receive, in many cases, larger salaries than they are now accorded. If larger salaries for physicians were paid, and larger wages to attendants and nurses, then the hospital would be able to retain for many years in succession the services of those who prove most valuable to the work.

A true hospital for the insane not only affords rest and repair, and a suitable training school, and good diet and pleasant surroundings and facilities for cleanliness and fresh air, but it likewise furnishes the best medication that has been disclosed by practical experiment and scientific application. For more than one hundred years the discoveries of Hahnemann in mental medicine have been exemplified with gratifying success. Whoever has studied the teachings of Hahnemann and read his provings knows that the mental symptoms produced by each drug come first in the category. They were placed there because the immortal master of medicine recognized their surpassing value as indications for the treatment of all manner of diseases. Wherever Homœopathic medication has been carefully and persistently applied in the treatment of the insane the results have been successful beyond those of any other method that has yet been employed. The experiment of Homœopathic medication of the insane in State hospitals has been tried in half a dozen of these United States and, considering the results attained, it is marvelous to me that every State does not provide means for furnishing Homœopathic medication to those of the insane whose friends wish that form of treatment. This provision should be for rich and poor without limitation. When the true scope of the ideal hospital for the insane is fully disclosed and understood, then the masses will insist upon such ideal forms of treating mental invalids; and they will also insist upon the application of that most successful medical method, namely, the use of Homœopathy in curing those afflicted with mental disorders.

The Location for a State Homœopathic Hospital.

By N. Emmons Paine, A.M., M.D.

Twenty-five years have passed since the first State Homœopathic Hospital for the Insane was opened at Middletown, N. Y. Its success was soon established, from whatever point the critic viewed it. The view that has always been studied and that has most captivated us as Homœopathic practitioners has been the percentage of cures. And this percentage, always far in excess of all neighboring institutions, has not only shown a continual justification of its existence, but has incited our colleagues elsewhere to possess similarly successful hospitals in other States. Their efforts have brought forth Homœopathic institutions in Massachusetts, Minnesota, Michigan, California, and elsewhere, and in every year of the past decade, efforts have been made in other States that have failed by so very little that it must be a strong temptation to try once more for the success that will surely come to persistence and united action. As the desirability of a hospital is already freely acknowledged in every one of the States where Homœopaths are numerous, and as they will appear one by one during the coming years, it is very important that every one of them be given the best possible location.

To obtain a charter is one and the first step; to select the most advantageous place is the next step and a vital one for all time. It is because this fact is not recognized, and because serious mistakes have been made so frequently, that your attention is called to some personal observations on this subject.

Let us suppose that a new hospital has been created in some State where repeated efforts have previously failed. Let us hope that the petition has been granted because of the just regard for the Homœopathic taxpayers of that State, and because of a willingness to give our school an opportunity to prove our claims of superiority of medical treatment. Having this solid foundation, let us trust that a carefully selected body of trustees has been appointed to select a site, to construct the buildings, and to direct the hospital after

completion. This plan will certainly give the best results. But there may have been three factors working in the legislature; in a word, politics, geography, and locality.

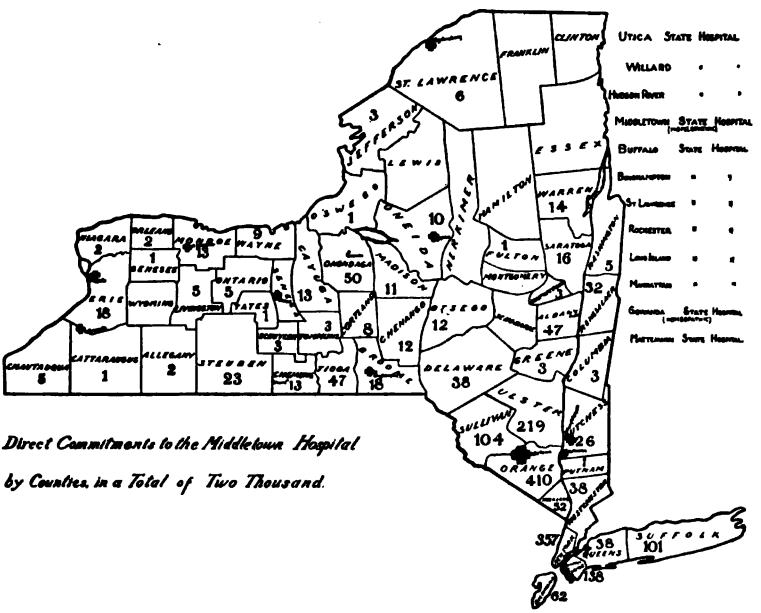
Of politics, so called, the best that can be said is, that it may be helpful in obtaining a charter and an appropriation; but it is baneful if it influences the appointments of trustees, the selection of a site, and the management of the institution. It certainly besmirches and destroys wherever it touches our public charitable institutions, and no philanthropic efforts can thrive under its assistance and protection.

The second factor influencing legislation may be the geographical division of the State. There may be, for instance, a hospital in the northern, the eastern, and the southern portions, and the law-making authority may choose to place the next hospital in the western portion of the State, even when sparsely populated. Such a location would be of little value to the Homœopaths, who might be in large numbers in the eastern counties and hundreds of miles from the new hospital.

The third factor, locality, may influence legislation, or it may not appear until later; but it has happened a number of times that the inhabitants of a city or village, wishing to obtain the advantages of a large institution in the community, have offered money or land as an inducement for its location in the neighborhood. To accept such an offer might be advantageous or detrimental, when judged by considerations that will soon appear.

We now reach that portion of our subject discussed in books on architecture, sanitation, and medicine. Innumerable writers have explained the need of light, air, and water, the best soils, the advantages of hilltop or hillside, accessibility to roads and to railroads, and many other items entering into the choice of a location that need not be repeated at this time. Let me advise those wishing to read further of these details to obtain the Middletown Hospital Report for 1896 and be charmed with Dr. Talcott's felicitous expressions of experience and advice. While it is not the purpose of this paper to explain all these items and many others not enumerated, because they may be found in books so readily, it must not be thought that they do not deserve the fullest consideration. Every item is important, and, if neglected, might handicap or ruin any institution. If any one investigating the subject will visit a large number of institutions and will read their reports for some years after the buildings are occupied, he will discover many errors of location and endless errors of construction. He would find an

institution with 600 patients so located as to have no natural drainage, where all the sewage, amounting to 60,000 or 80,000 gallons a day, must be pumped over a ridge, at a cost of $1,200 or $1,500 a year. He would find a hospital with 1,200 patients, near a river, the abundance of water having determined the choice of the location, where dozens of persons have sickened and many died before it was discovered that the water was contaminated, and a new supply was obtained from a company at a cost of $2,800 a year. He would find another hospital built to accommodate 1,000 patients, where wells driven near a river about the time of opening the hospital were found to furnish an inadequate supply of water and were

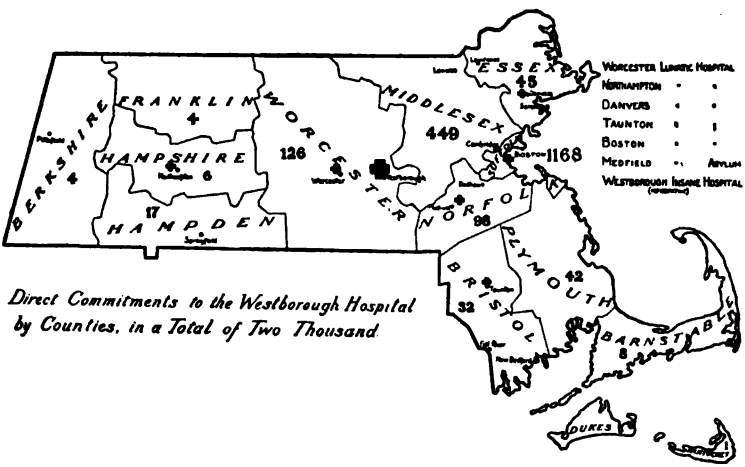


abandoned, and water was obtained from a company at large expense every year. He could visit more than one hospital on a hill, inaccessible to railroads each using 5,000 tons of coal a year and paying fifty cents a ton for cartage, or $2,500 a year, not for coal, but for the delivery of the coal from the station to the engine house. There are many other similar instances that are well known, and a recital of them would entertain if not instruct any body of men; but it would be a deviation from our chosen subject, and cannot be permitted at this time.

All of these and many other faults of location could have been avoided. All of these add to the cost of maintenance, and when

joined with faulty construction, the expense of carrying on an institution may be so great as to make it impossible for any body of trustees or any superintendent to ever make it financially successful. A judiciously economical administration is just as essential in a large hospital as it is in a business. This fact ought to be particularly emphasized, for it is seldom considered when deciding upon a site for one of these public buildings.

Up to this point our discussion has been general, and concerns all institutions; but now comes the vital question, the one that concerns us as Homœopaths, and that ought not to be forgotten when selecting sites for the Homœopathic hospitals of the future. The fact is, that we, as a school, have been supposing all these years, that if a hospital could be obtained and located somewhere in a State,



Direct Commitments to the Westborough Hospital by Counties, in a Total of Two Thousand

it would receive Homœopaths from not only its own neighborhood, but from the remotest corners of the State. That belief is a fallacy, and it has been disproved by the records of our hospitals, as you will see.

We shall find that a well-conducted Homœopathic hospital will attract to it nearly all the old-school patrons, as well as the Homœopaths, from its neighborhood, and, conversely, an old-school institution will be sought by Homœopaths, who will not spend much time and money in travelling a long distance to one of our own hospitals. In order to demonstrate this truth for our guidance at this time and for all future time, I have obtained statistics of 2,000 commitments from Middletown and from Westborough. And just here I wish to express my obligation to Dr. Talcott, our great leader in the specialty of mental diseases, for his kindness in furnishing

me with Middletown statistics; and, in the case of the Westborough statement, I wish to express my gratitude to Dr. Adams for his courtesy and to Dr. Klopp for personally searching the records and sending me the results of his work.

Let us glance at the two charts before us: one is a map of New York State, the other of Massachusetts. In each State every county is indicated and named. In addition, there is placed in each county the number of residents who have been committed directly to Middletown and Westborough, in a total of 2,000 admissions. At Middletown the first 2,000 direct commitments were selected, and, at Westborough, the second 2,000. This number, 2,000 was chosen because it was deemed large enough to show the truth. Many persons were received in both hospitals who were transferred from other institutions. They are excluded from our figures because their going to these two hospitals was not volitional with them or their friends, as we presume to be the case in direct commitments.

On both maps will be noted several crosses. They indicate State Hospitals for the Insane. They are introduced in order that one may satisfy himself how small is the number who pass them to reach a Homœopathic institution.

It is necessary, just here, to explain that the Fergus Falls Hospital is omitted from our consideration, because its statistics would be valueless. That hospital provides for a district perhaps one-third of the State of Minnesota, and all the insane of that section must be sent to it regardless of their medical preferences. While this requirement may seem unjust to the old-school adherents of that district, the injustice is evidently regarded as counterbalanced in the other two sections of the State, where the old-school hospitals receive all the insane, although some of them might prefer to go to Fergus for Homœopathic treatment.

Some explanation is necessary in regard to Westborough. It is in reality a Homœopathic hospital for the whole State. Massachusetts is divided into four districts: Danvers provides for the northeastern, Taunton for the southeastern, Northampton the western, and Worcester the central, while Westborough is expected to receive the Homœopaths of the whole Commonwealth. The county of Suffolk, or Boston, is not included in any of these districts, and it was expected that its insane would be directed to the nearest hospitals, including Westborough, in rotation, or as vacancies existed, by the State Board of Lunacy and Charity. In accordance with this provision, Westborough has received two classes of patients, those who demanded Homœopathic treatment, and those residents of Boston

who were sent to it, as if to a district hospital, without regard to their medical preferences. For this reason, probably not more than one-half of the 1,168 admissions from Boston can be classed as Homœopaths, the remainder having been sent there because of its fortunate proximity to Boston—a distance of only thirty-two miles. As Dr. Adams writes in commenting on these figures: "I think it shows very clearly how location influences those who send patients to insane hospitals."

If we turn once more to Middletown, we shall have our most striking illustration of the influence of location upon admissions. There we have a hospital without a superior, in any respect, among the State hospitals of this country. It is, however, sixty-six miles from the great city of New York, and our figures show that even that distance has been a disadvantage. We find in an atlas of 1889 that the population of New York County was 1,206,577. We know that it had about 300 Homœopathic physicians; and yet, the commitments amounted to only 357 in the 2,000 we selected. On the other hand, we find that Orange County had a population of 88,217, and its contribution to Middletown was 410 patients, over one-fifth of the whole number, because it is the county in which the hospital is located. In Dr. Talcott's note accompanying the statistics he writes: "You will observe that the majority of the patients came from a radius of seventy-five miles from Middletown, although we have a possible partial radius extending westward about 400 miles."

Now that we have examined the statistics ot the Middletown and Westborough hospitals, have heard the testimony of the superintendents of both institutions, and are acquainted with the opinions of others who have had similar experiences, we must be convinced of the fact that comparatively few patients will journey more than fifty or seventy-five miles to reach one of our hospitals. Is not this the right time and the right place to recognize this truth? If the members of this national association will carry to all parts of the country this knowledge, the experience of our alienist authorities, they will prevent many errors in the coming years, and will secure such locations for our future hospitals that the laws of nature shall be for us and not against us.

Before closing, let us group together a few conclusions that ought to be kept in mind.

First, before locating a new hospital seek advice from one of our veteran superintendents.

Secondly, do not allow politics or the desires of a community to obscure the real question—the permanent welfare of the institution.

Thirdly, place the hospital, if possible, near a Homœopathic medical school, to which it may furnish much valuable clinical material.

Fourthly, begin with a small appropriation and a small hospital, and then let it grow naturally and develop its own characteristics.

Fifthly, after satisfying yourselves of a location, as to its soil, water, exposure, and the other questions that occur to all builders, try to provide also for future economical administration.

Sixthly, as we shall have, probably, only one hospital in any State, place that one within twenty miles of the largest city of the State, where access will be easiest for the patrons of the greatest number of Homœopathic physicians.

And, finally, remember that proximity and the pocketbook are more potent than "pathy."

APPENDIX.

New York—Table I.

County residence of first 2,000 patients admitted to the Middletown State Hospital:

Albany	47	Kings	138	Richmond	62
Allegany	2	Livingston	5	Rockland	50
Broome	18	Madison	11	St. Lawrence	6
Cattaraugus	1	Monroe	13	Saratoga	16
Cayuga	13	New York	357	Schenectady	3
Chautauqua	5	Niagara	2	Schuyler	3
Chemung	13	Oneida	10	Steuben	23
Chenango	12	Onondaga	50	Suffolk	98
Columbia	3	Ontario	5	Sullivan	104
Cortland	8	Orange	410	Tioga	47
Delaware	38	Orleans	2	Tompkins	3
Dutchess	26	Oswego	1	Ulster	28
Erie	18	Otsego	12	Warren	14
Fulton	1	Putnam	1	Wayne	9
Genesee	1	Queens	38	Westchester	38
Greene	3	Rensselaer	32	Yates	1

New York—Table II.

(*Another arrangement of Table I.*)

Proportion of insane of each county, committed to Middletown, to the total population of the county:

Albany	1 out of	3,295	Allegany	1 out of	20,965
Broome	1 "	2,749	Cattaraugus	1 "	55,806
Cayuga	1 "	5,006	Chautauqua	1 "	13,038
Chemung	1 "	3,312	Chenango	1 "	3,324
Columbia	1 "	15,976	Cortland	1 "	3,228
Delaware	1 "	1,124	Dutchess	1 "	3,045
Erie	1 "	12,215	Fulton	1 "	30,985
Genesee	1 "	32,806	Greene	1 "	10,898
Jefferson	1 "	22,034	Kings	1 "	4,322
Livingston	1 "	7,912	Madison	1 "	4,010
Monroe	1 "	11,145	New York	1 "	3,098
Niagara	1 "	27,066	Oneida	1 "	11,547
Onondaga	1 "	2,355	Ontario	1 "	9,908
Orange	1 "	216	Oswego	1 "	77,911
Orleans	1 "	15,064	Otsego	1 "	4,283
Putnam	1 "	15,181	Queens	1 "	2,314
Richmond	1 "	628	Rensselaer	1 "	3,635
Rockland	1 "	553	St. Lawrence	1 "	14,332
Saratoga	1 "	3,447	Schenectady	1 "	7,846
Schuyler	1 "	18,842	Steuben	1 "	3,373
Suffolk	1 "	541	Sullivan	1 "	312
Tioga	1 "	493	Tompkins	1 "	11,481
Ulster	1 "	391	Warren	1 "	1,798
Washington	1 "	9,574	Wayne	1 "	5,744
Westchester	1 "	2,867	Yates	1 "	21,087

Proportion of total insane to population of whole State: 5,082,871 ÷ 14,111 = 1 to each 360 persons.

Massachusetts—Table III.

County residence of 2,000 patients admitted to the Westborough Insane Hospital, consecutive from No. 2,000, excluding the transfers, and beginning in January, 1892, and ending in October, 1898:

Suffolk	1,168	Essex	45	Barnstable	8
Middlesex	449	Plymouth	42	Franklin	4
Worcester	126	Bristol	32	Berkshire	4
Norfolk	98	Hampden	17	Nantucket	1

Massachusetts—Table IV.

(Another arrangement of Table III.).

Proportion of insane committed to Westborough, of each county, to the total population of the county:

Suffolk	1 out of	462	Hampden	1 out of	8,331
Middlesex	1 "	1,073	Barnstable	1 "	1,796
Worcester	1 "	2,115	Hampshire	1 "	6,944
Norfolk	1 "	1,288	Franklin	1 "	6,473
Essex	1 "	7,054	Berkshire	1 "	14,301
Plymouth	1 "	2,184	Nantucket	1 "	3,142
Bristol	1 "	6,200			

Proportion of total insane to population of whole State: 2,304,700 ÷ 6,768 = 1 to each 340 persons.

DISCUSSION.

GEORGE S. ADAMS, M.D.: When one is so fully in sympathy with both the papers that have been read, it seems impossible to discuss them, when all that should be said has been so well said, with any benefit to you. In reference to Dr. Talcott's paper there is very little that I would add, nothing that I would criticise. I emphasize the desirability of having nurses in the insane hospitals obtain a thorough training and to receive a salary adequate to the work demanded of them. The hospital at Westborough has had a training school for nearly eleven years, and we are receiving each year increasing benefits of the training. A larger portion of the graduate nurses remain and aid in the discipline of the hospital, and make the work of caring for the insane much easier for the officers.

I would add one thing very desirable for an insane hospital and that is, to limit the size so that it may not become too large. It appears to me that a hospital of not more than five or six hundred patients permits the superintendent to keep in touch with the work being done by his assistant physicians and be able to, in a large degree, decide what shall be done and how it is to be carried out. When a hospital becomes much larger than this and more executive work is put upon him, he must leave to his subordinate officers much of the care of the details of administering the Homœopathic treatment and the hygienic and all other aids that are necessary to make such a hospital a success.

With regard to the location of an insane hospital, I believe—I know—and it must be the opinion of every superintendent of an insane hospital that the statement of Dr. Paine in regard to location is exactly correct. It cannot be otherwise. My experience of twelve years at Westborough has shown this even better than the statistics taken from two thousand patients, although that shows the general proportion very well; but I find in the neighboring city of Worcester, only twelve miles away from Westborough, where we have a number of Homœopathic physicians who are in sympathy with our hospital and would send the insane patients they commit, if it were possible, and yet we very seldom get a patient from there because the Worcester Insane Hospital is right in the city, and the opportunity to visit their friends overbalances their strong desire to have Homœopathic treatment. The towns around Westborough send all their insane to our hospital irrespective of the school of the committing physicians. They manifest the same desire to have their friends near them, and easy of access. Suffolk County, which includes Boston, has sent us 1168 cases, simply because they go in rotation to four hospitals, Westborough taking its share with the others. With these commitments no question of Homœopathy comes in. Recently, however, increasing numbers come from Boston by choice when they could have been committed to other hospitals, but the other State hospitals they could go to were as far or further than Westborough.

A good illustration of this necessity to consider the proper loca-

tion of an insane hospital came to my attention during the past winter and spring during the effort made in Connecticut to secure an insane hospital under Homœopathic management. Two towns wished to have the hospital. Norwich, at the eastern part of the State, offered a good location with pleasant surroundings, and an abundant supply of water. Norwalk, at the western end of the State, presented a situation which was nearly, if not quite, as satisfactory: and the question could easily have been decided which was the best place by considering where the bulk of population could be found. Norwalk, I am informed, is very nearly in the center of the population in the State, and also very easy of access, and would accommodate a much larger number of those who wished Homœopathic treatment for their insane than Norwich.

With this striking illustration of the necessity of considering most carefully the location for an insane hospital, I leave the subject.

S. H. TALCOTT, M.D.: Too much talking makes people crazy, sometimes. I hope I shall be able to stop before I drive you all mad. Dr. Adams stated a very impressive fact when he said that State hospitals should contain only five hundred or six hundred people; and if, in the State of New York, we could have four Homœopathic asylums or hospitals instead of two, I think it would be better, and we could then locate them in such a way as to conform to the idea presented by Dr. Paine. We might have one large hospital near New York City, and one near Albany and one near Syracuse and one near Buffalo; then we would have four located near four of the largest cities of the State; and the question of locality would then be satisfactorily settled. Dr. Paine has spoken of having about 400 admissions from the County of Orange, containing only 88,000 population. It struck me as something novel, at first; and I had to think it over last night when he told me about it. I found, upon reflection, that a good many patients used to come to us from the States of Pennsylvania and New Jersey. They would sometimes come in the early stage of their disease, and perhaps received what might be called out-door treatment for a little while, and then be entered in the hospital as residents of Middletown, N. Y. In that way the number of insane was apparently increased. Another reason, perhaps, for receiving so many from the County of Orange is the fact that a good many people in that county seem to hanker after Homœopathic treatment when they are even to a slight degree disturbed in mind. Not only does this desire for treatment in the Middletown State Hospital prevail in Orange County, but also in Sullivan County, just north of us. I remember sending home a young man fully recovered some years ago; and a short time after that an old farmer was down visiting us; and I said "How is Mr. ——— getting along?" "First rate," he said; "he is teaching school now. Up in our county we don't think a man is fit to teach school until he has had a course of treatment at the Middletown Asylum." I hope that the time will soon come when a Homœopathic hospital for the insane will be established in every State in the Union—locating it near the largest city in the State, and as near the central part of the State as possible.

Dr. Paine suggests that in addition to taking care of the insane we should try to prevent insanity. This increase in the numbers of those who deal with sweet bells jangled out of tune is terribly deplorable and is exciting the apprehension of a good many students of psychology. Some one has stated that if this thing goes on as at present, in 2304 we will all be insane—every man will be running his own lunatic asylum. It seems to me that we ought to study proper methods of training and developing the young, and in that way prevent the growth and development of insanity. I thought last night as I was listening to the musicale at the Hotel Dennis of something that a friend of mine once said with regard to music. It was a wish; and it ran something like this: "May neither your life nor mine be composed of random scores, but be a beautiful anthem—harmony in all its parts, melody in all its tones; not a strain wanting, not a note out of tune, till the daughters of music are brought low and the life anthem is ended." If we will train our children to live in that kind of way a perfect life, then we will have less insanity to deal with.

DANIEL H. ARTHUR, M.D.: In the true scope of a hospital there has been much said which is of vast importance relative to the location, sewerage, the general plan of the building, furniture and pleasant surroundings in general. In order that we may secure the best chances for rest, improvement and permanent recovery, there is no doubt that all these conditions have their importance and are strong and potent auxiliaries in the care and treatment of the insane, with the one idea in view—improvement and recovery.

The history of the care of the insane in these United States during the past three decades has been certainly one of great progression, with the result that where, previous to this time, the insane have been cared for well in many respects—still there had never been that great desire, with present scientific facilities, to cure as exists in this generation.

Every effort has been made to subdue other forms of disease and with great success and progress; but the mental invalid was neglected, or it was concluded that when one became afflicted with insanity hope was gone, and the best and most reasonable thing to do was to incarcerate his person and prevent him from harming himself and others. This condition of affairs has changed. The care and treatment of the insane has become a subject of so great importance and its progress has been so rapid, both in the way of therapeutics and other methods, that it has become one of the noteworthy events of the end of the nineteenth century.

There is yet, however, a point in connection with the treatment and cure of the insane which should command more attention than it has, and which is, I believe, thoroughly appreciated by the majority of alienists. I would refer to the individual treatment of the patient. It has always been my opinion, and I believe it is the opinion of the majority of those whose specialty is the care of this class of disease that when our hospitals for the insane reach a point where the number exceeds six hundred, the treatment can never be effica-

cious for the reason that the chances of individualizing are so much lessened. Where the insane are herded together in one hospital with a number reaching a thousand or two thousand or more they can be cared for in a comfortable way and with fair results, and undoubtedly are better and more intelligently treated in the present era than they were thirty years ago. Still, in the interest of increased progression of the treatment of this disease, there is not an opportunity to individualize, to hunt symptoms, to experiment and watch each individual patient, and to give him the care that his case requires.

You may say, "We have under treatment so many insane patients." Again, you may say, "There are so many afflicted with mania, acute and chronic; there are so many cases of confusional insanity; of paresis, terminal dementia, etc.," with the inference (which is probably an exact statement), that they are treated as a class, and that there are so many of them it is impossible to furnish a service of physicians adequate to take up each individual case, diagnose, treat and watch it as it should be. Where there are few patients entrusted to each physician he is enabled to take each individual case, diagnose, and give it the individual care and attention which otherwise he would be unable to do, and it is my belief that if all the insane asylums throughout the country were erected for the accommodation of from four hundred to six hundred patients instead of from one to three thousand, the rate of deaths would be much decreased and the percentage of recoveries would show a large increase in a short space of time.

Cases of insanity present different symptoms and require different forms of treatment, as do cases of pneumonia, typhoid fever, etc., and the symptoms should be studied with just as much care and attention with the idea of prescribing the right remedy for the totality of symptoms, with the object of getting good results as in all other cases of disease.

Some authorities have insisted that in the classification of the insane there should never be more than thirty placed in one ward. Were we able to carry out such a plan as this there would surely be ideal results; as here much increased attention and care would be given the individual patients, with resulting better results. Where there are hundreds of patients bundled together in a ward, there are never enough physicians allowed to give each one the special care which the case demands.

The symptoms of insanity in the course of the disease change: new symptoms present themselves from week to week which would necessarily require a change in the remedy and method of care. With so many cases to look after, it is impossible for the physician to take due cognizance of these changes, and the result often is that the patient does not improve as he otherwise might.

My idea has been to represent this danger in the treatment of the insane. The profession all over the country should protest against the large and overcrowded asylums. They should never reach a certain census in order to achieve the best results. I know it can be said that such a policy advocated would entail such enormous ex-

pense that the State would become alarmed at the great expense incurred. This might be so to a certain extent at the commencement of this system, but when you take into consideration the fact that the average life of an insane patient is twelve years, with the consequent expense of caring for him which the State must undergo, I believe that in the end this system would result in such early recoveries under improved treatment that the State would be repaid amply, not only in the restoring of its citizens to health and reason, but also be a financial benefit to it.

There is another condition in the treatment of the insane which is of vital importance, and which has been spoken of by Dr. Talcott in his able paper, and that is in reference to the men and women who act as nurses in immediate charge of the insane. There is no doubt that this class of wage-earners are paid too little for the work and worry and the risk they run at all times in caring for this class of sick. The hours are long—the work is arduous, requiring a certain kind of disposition where the patient is entrusted to his care, and where, in the majority of cases, the prospect and prognosis depend upon his kindness, his good will towards the patient and his disposition and desire to do all things in his power to promote the patient's improvement and recovery.

The requirements of the nurses for the insane are so many and so varied that you are not always able to find them in one who is willing to give his service for such small remuneration; and in the interest of this class of sick, the insane should surely be supplied with a nurse of as good character and ability as one looking after other classes of disease. There is no doubt that cheap labor in this regard is poor economy and prejudicial to the best interest of the patient and the State.

There is one other matter that seems to me of importance, coming under the true scope of a hospital, and that is the training of a physician to the work of alienism. The interne system is one that should be given careful attention, and in the State of New York the interne has been given a prominent position in our State hospitals. His status is principally that of a student and apprentice, who, after a certain course, becomes eligible to the position of assistant physician.

The study of the diseases of the brain and nervous system is intricate, and probably to-day more important than that of the many other diseases, and, I am sorry to say, one that is probably more neglected by physicians in general than any other disease. It is therefore necessary, in the interest of this class of sick, that men be trained in its knowledge before they should be allowed to assume any responsibility in this work.

Progress of the Year in Regard to State Hospital Work.

By Ellen L. Keith, M.D.

The growth of public and private institutions for the care and treatment of persons afflicted with nervous or mental diseases has been steady during the past year.

Most of them report more patients, more building and more facilities for treatment, with good results. In no case does there seem to be retrogression though in some of the private hospitals a limit of admission is fixed preventing their usefulness being extended so far as it might otherwise be.

Seven States of our Union now have public Insane Hospitals under Homœopathic supervision and two of these have already extended this treatment into a second institution, thereby showing approval of the results in the first. Middletown, N. Y., must ever receive the honor of being the school from which many of the first superintendents of the later hospitals have graduated.

Within the year past she has seen New York's second Homœopathic Hospital opened under most favorable auspices, with one of her own physicians at its head. Collins, re-named Gowanda, began receiving patients August, 1898, and has accommodations for about three hundred.

This institution has been especially favored by Nature in the abundant supply of gas that brings to it a wealth of resource that ought to make its growth rapid. Not that gas is needed to push Homœopathy, but like all other pathies it must have the all-powerful dollar with which to build and furnish institutions wherein it may work, and even rich New York practises some economy in the endowment of its hospitals.

Illinois stands second only to New York in having been able to see that it is more profitable to cure acute cases of insanity than to care for them indefinitely.

Acting on this belief, Gov. Tanner has recently placed a Homœopathic physician at the head of the Northern Illinois Insane Hospital at Elgin. Dr. F. S. Whitman of Belvidere brings to his new position the experience, judgment and executive ability so much

needed in the superintendency of an institution of the size and standing of that at Elgin. Not only can we add this large and well established hospital to our list, but Dr. Taylor reports increased growth at the Watertown Insane Asylum.

Eight new wards have been added there and the Doctor's remark that "this institution is strictly Homœopathic" shows that it was no flying of false colors there that led to the establishment at Elgin of another Homœopath.

In Minnesota the same story of continued progress is told, though there the increase is at the original plant in Fergus. A new building to hold two hundred patients, making a population of 1225, gives this hospital the rank of largest among the Homœopathic institutions in the world. Its claims for a large recovery and small death-rate not only far surpass those of allopathic institutions, but rather exceed the good showing of her sister hospitals in the East. It claims no new methods only a close adherence to those learned from the older institutions.

Farther West we have the report of another building added to the Southern California State Hospital.

In Iowa, at the last Legislature, Dr. Prentis of Des Moines held the unique position of being the only Homœopathic physician ever a member of that body, and, though also the youngest, he made a strong and nearly successful effort at securing one of the State Hospitals for our school. Not being able to win entire recognition he succeeded in having the appropriation for the completion of the new hospital at Cherokee defeated, which leaves the field open for another struggle next year.

In Connecticut the same course of procedure has been adopted. After a united effort to secure an appropriation of $100,000 for the erection of a new hospital to be under Homœopathic control had failed, a struggle was made to defeat the appropriation entirely for this season.

Our Commission has reported the need and advisability of a separate institution from the present fully grown one at Middletown and the way seemed clear for it to be given to the Homœopaths. Then the present superintendent at Middletown suggested, for economy's sake, that a congregate dining room might be erected there at a cost of $100,000, which would relieve space in the old buildings to accommodate 250 patients.

Both Norwich and Norwalk are ready to offer suitable sites if the Legislature will furnish the money.

In Massachusetts a signal change has been made in the State

management of the insane. October 1, 1898, the old State Board of Lunacy and Charity was dissolved and the new State Board of Insanity assumed control of the insane hospitals.

This board, appointed by Gov. Wolcott, is composed of five members:

Dr. G. F. Jelly of Boston.
Dr. H. D. Howard of Boston.
Col. C. R. Codman of Cotuit.
Hon. E. S. Bradford of Springfield.
Mr. F. D. Gardner of Brockton.

Col. Codman has been chairman of the Board of Trustees of Westborough Insane Hospital from its beginning and, as such, has had to meet all criticism, just or unjust, from the old State board and has often found it most trying. He now has a position where he can probably greatly aid the Homœopathic Insane Hospital because of his thorough knowledge of its needs and of his firm faith in its good intentions and good results.

At Westborough a new building was opened in January, 1899, planned entirely for the use of the acute insane. It accommodates twenty-six men and twenty-six women patients. It is furnished very tastefully and handsomely. Every thing needed for the comfort and proper care of acute cases has been provided. For their treatment there are a Turkish bath, and expensive electrical appliances. It is hoped that the isolation from chronic cases and pleasant surroundings, with massage, gymnastics, baths and electricity added always to the carefully selected remedy may do much towards lessening the number of chronic cases to be provided for in years to come.

The demand for accommodations for nervous and mildly insane cases in private hospitals is increasing and the need is being met by Homœopaths as well as by allopaths.

Additions to sanitariums already established are reported in most cases, while new and well-equipped establishments have been opened. In the few private hospitals from which I have had a report there has been an increase of accommodations, or is to be completed during the summer, for about one hundred and seventy-five patients. This private increase combined with the large hospital at Elgin, the report of nine new wards at other hospitals and accommodations for about six hundred at still others, shows that the increase of population with its consequent increase of nervous and mental diseases is yielding a fair quota of patients demanding Homœopathic treatment.

Investigations in the Field of Cytology.

By J. Richey Horner, A.M., M.D.

Eighty years ago Burdach said: "It is not alone necessary to collect building material. In every period in which a new mass of material is collected, we must start anew to erect an edifice. This giving of definite form to the knowledge will in no way retard the spirit of inquiry which leads to new discoveries; on the contrary, it is only when we get a comprehensive view and behold the imperfections of our knowledge that we know what direction future investigations must take. May the attempt at such structures ever be renewed, for no such attempt fails to advance knowledge."

The study of cytology, the study of the cell of intracellular life marks the beginning, I believe, of a better understanding of the pathology of nervous phenomena. One might possibly better say—simply marks the beginning of an understanding, because there is so little known that is definite and positive concerning the nervous system pathologically considered; and indeed the same assertion is perfectly applicable to the normal brain. The theories of the psychiater are as yet but theories. They are not based on any positive knowledge. But little can be said concerning the processes of normal mental action and methods of ideation, of the storage of thought, of the processes through which one's brain goes in the course of the development of logical reasoning—we might say nothing is known of this.

Until within a very few years the study of nerve tissue and brain structure has been made, so to speak, en masse—that is to say, cell structure has been studied in groups rather than individually. A great reason for this has been lack of proper methods of preparation in the development of the material for microscopical investigations. It has been only recently that progress has been made along this line, which enables the original investigator to so prepare his specimens for the microscope that he is enabled to study not alone cells collectively, but cells individually, and not only the cell as an

undivided unit, but to develop it so as to be enabled to study its component parts, for it has been proven that small as are these nerve cells, they are in reality active organisms. Within the enclosed cellular membranes are distinct and separate masses, with an undoubted systematic arrangement in relation to each other.

This new era in the minute study of the nervous system dates back, as we have said, only a few years, to, particularly, Golgi, who through the treatment of nerve cells with silver precipitates succeeded in demonstrating that some cell neuraxons pass directly into a nerve fiber, and from other cells arise neuraxons which break up into network. From this network nerve fibers can pass out. Haller later made some studies from which the proof seemed conclusive that there are these two methods of origin of nerve fibers. This discovery, however, led the way to much more significant ones. Further careful study, particularly by the Germans, and one Spanish investigator, led to new views. Edinger says, in this connection, "We stand yet in the current of changing opinions, receiving daily new contributions to this interesting question." To the specialist along this line of study, it would be interesting to go into minutia concerning the development of the knowledge of cell life, but it is my object not to make this short paper a technical one, simply to give an idea, more particularly to others than specialists, what is being done in the study of minute nerve organism.

In 1885 Nissl called attention to the fact that "chromium salts destroyed the finer structure of nerve cells while preserving the fibers, and that if we are to demonstrate the minute structure of the cell other hardening agents must be used." From this time I think dates the obtaining of the best results from microscopical work, and recognition is here made of the fact that nerve cells have a finer structure than had heretofore been examined. As a result of this observation of Nissl the technique of preparation for examination underwent a radical change, it being immediately recognized that this field of pathological research was largely to become a study of microscopical technics. A 95 or 97 per cent. solution of alcohol was most generally used as a fixative—a great disadvantage, however, being that it causes a considerable shrinkage of the cells and is of comparatively slow penetration. Formaline has become popular as an initial hardening agent. It would be interesting to some of us, perhaps, to go into details as to the technique of this work, but suffice it to say that the employment of Nissl's methods led to the development of a knowledge of histology of the ganglion cells, and also quite directly made necessary a new classification of nerve cells.

There have been used in medical literature within the last few years a series of new terms relating to conditions of the nervous system. Among these we might note the dendrite, which as used by the majority of American neurologists, is taken to mean the processes which lead to the nerve cell—in other words, afferent processes. Other terms are neuraxon, axone or neurite, and these are taken to refer to the efferent cell processes, that is to say, the processes which lead away from the cell.

It is not alone in conditions of the nervous system that application of this branch of scientific work is profitable. Of conditions of acute intoxication due to the absorption into the system of poisonous products, a study made post-mortem of the nerve cell is of exceeding interest and importance. In arsenical poisoning there is a distinct and positive change in the structure of the cell bodies. There are but few dendrites to be observed and the cells themselves lose individuality—a group becoming as one mass of yellowish granules. In lead poisoning the cells are disintegrated, while the larger masses are bleached. And so we might go on with those conditions of acute intoxication, taking up alcohol, strychnia, phosphorus, carbolic acid, hydrochloric acid, morphine, etc., did time permit. Uremia and eclampsia may be studied in the same way, as may also conditions of meningitis, particularly of the tubercular form. Infectious diseases, such as typhoid, pneumonia, diphtheria, and peritonitis have been made the subject of study with the result of clearly demonstrating a definite and distinctive pathology of the nerve cells in these respective conditions.

It is interesting to consider also the cell physiology. We have endeavored to give an idea as to the cell anatomically, and without attempting to enter into argument or explanation, I would merely make concerning this thought a few statements which are substantiated by the latest authors. (1) A motor nerve loses its function when separated from its cell of origin, and the function of a sensory nerve is destroyed when the gray matter in which the sensory end fibers are buried is destroyed. Hence, we have the deduction that in the ganglion cells and their inter-relationships we have the basis of nervous activity. (2) It is claimed that ganglion cells have the property of storing up and retaining irritations coming to them until the accumulated irritation is too great or some new irritation arrives from some other direction, when they suddenly discharge. (3) There is an inter-relationship among nerve cells so that a given irritation never affects but one cell, but rather that an impression which is conducted from one point in the periphery by a

single fiber from the nerve center may there charge a large collection of motor cells. Following this line of thought we may say that a large group of muscles may take part in a complicated movement in obedience to the stimulus which has been imparted to groups of nerve cells, their influence being there broadened with each successive impression.

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Electricity in the Treatment of Strictures and Morbid Growths.

By H. J. Evans, M.D.

The efficacy of the therapeutic power of electricity in the successful removal of strictures of the urethra has been a much discussed question in the minds of many electrotherapeutists, and I know physicians who claim to have given the electric treatment a fair trial and abandon this agent in their treatment of urethral strictures as being of no benefit whatever. Others object to the treatment, as they claim that it is necessary to keep it up as long as the old method of dilatation to accomplish any good, but every once and a while new evidence is brought before our medical societies sufficient to encourage all of us to persevere, and that so many failures are either due to lack of thorough knowledge of the anatomy and physiology of the urethra, or due to faulty instruments, and not to electricity.

If every urethra corresponded in shape, curves, etc., to the ideal urethra of the urethral electrode maker, then I think the record of our failures would be less. It is a very common occurrence to find that the curve on the average urethral electrode will not even conform to the normal anatomical curve of the urethra as laid down in our text-books: they either embrace too large or too small an arc, and with this feature of defect lies a large per cent. of our failures.

If we had an accurate cast made of the urethra from the vesical outlet to the penile outlet, and also one from the penile point to the vesical point, and our idea of the channel based on such outlines, then the urethral electrodes would be of much value. Text-books merely tell us that the urethra presents a double curve in the flaccid state of the penis and only a single curve in the erect state.

The electrotherapeutist, taking only this statement as his data, will often come to grief in his treatment. He must bear in mind that each portion of the urethra presents a different anatomical appearance. As you traverse the spongy portion with the electrode you find a very pliable canal, which is capable of much dilatation, but immediately on entering the membranous portion we meet with

much resistance due to the very sensitive muscular fibers of the compressor urethra, and this, the most important portion of the urethral tract, is where we meet with failures, as the presence of the current in the membranous portion, especially in the bulbous portion, sets up an irritable effect of the muscular fibers, and you often fail to push your electrode farther to meet the strictures near the vesical end of the urethra.

This has been my experience in many cases of strictures near the prostrate portion of the urethra, the bulb of my electrode failing to enter this part of the canal at the proper angle. Dr. W. H. King of New York, who has given the profession much valuable information on electrolysis of the urethra has devised an electrode that overcomes a great deal of the difficulty at this point. His instrument is simply a steel sound with the proper curve as given as the true anatomical one, namely that of a circle three and one-fourth inches. This sound has a bulb properly insulated three-eighths of an inch from the end, and is two times larger than the rest of the instrument.

My experience in the treatment of strictures by electricity has been very satisfactory compared to the old method of gradual dilatation by means of steel sounds. My early cases were not very satisfactory, due in a great measure to my timidity in resorting to an agent applied to such sensitive parts and the technique of which so little was written at that time. Ten years ago my electro-motor force was the street incandescent current, properly controlled, yet very much hesitancy was felt when I had a case, but in a very short time this timidity gave way to confidence, and some of my best results in electrical treatment was by the use of this same street current. I adopt the following technique: I first determine the location of the stricture by an Otis' Flexible Sound, and with the same instrument I am enabled to approximate the size or lumen of the stricture. Taking an olive tip corresponding to the size, or better, a little larger than the Otis bulb, and attaching this to my flexible stem, it gives me an excellent urethral electrode, which answers the same purpose as the more expensive Newman Electrode. I have the patient hold the positive electrode in his own hand or against his thigh, so that I can devote both my hands to the negative urethral electrode, while it is inserted, and so use a gentle pushing motion on the electrode, while the stricture is yielding to the current. There is a slight advantage in having your patient hold the positive pole so that if from any accident the working of the current should be disturbed, he can readily break the circuit by withdrawing the electrode from his body.

I now use a cabinet battery of fifty La Clanche cells. The incandescent current I used in my early use of electricity, I replaced with dry cells, but finding this unreliable and not constant in its electro-motor force I decided on the La Clanche cell. This battery furnishes me with electromotor force sufficient for any genito-urinary work and gives me a reliable current. I have never attempted to do any genito-urinary work without the use of a controller or rheostat and milliamperemeter. I prefer the Massey Controller and the Vetter Direct Reading milliamperemeter.

I place the patient on his back on the operating table, assuring him that he will not meet with any injury, and start with one to two milliamperes and gradually increases the current until he can tolerate it with comfort. I usually give from two to three treatments per week.

The following few cases will sufficiently illustrate the technique: Mr. D———, age 37, tailor, had stricture of seventeen years' standing the stream not over one-eighth of an inch in diameter, but frequently from exposure would have almost urethral suppression of the urine. It was during one of those attacks my attention was called to the case. I relieved him temporarily by a Bougie a boulie, and in one week I proceded with the electrical treatment. I commenced with No. 12 French size and gave him two treatments weekly lasting from ten minutes in the first few treatments to a seance of twenty-five minutes, and never more than ten milliamperes. The patient was under my supervision for three years, and had no return of the trouble. This case was treated with the incandescent current.

Mr. G. H———, age 50, carpenter, traumatic stricture with very tortuous urethra, especially in the spongy portion. This patient was under electrotherapeutic treatment for three months. The urethra enclosed six different strictures. I commenced the treatment with a very mild current of three milliamperes of ten-minutes' duration, till I secured the confidence of the patient. In the last treatment he was able to endure twenty-five milliamperes and a sitting of thirty minutes. In this case I was compelled to feel my way down the urethra with a very small flexible electrode, and after I had established a straw-size canal I followed is up with my olive-point electrodes. During several of the treatments I was compelled to use a 4 per cent. solution of cocaine in the urethra, but as he had endured much torture in the past by steel sounds forcing their way to the bladder, he was fortified to bear much more than the ordinary pain in his treatment.

It is two years since he received the last treatment, and he has had no return of the trouble since.

Mr. S———. age 25, clerk, stricture with enlarged prostate, due to suppressed attacks of gonorrhea by injections. In this case my treatment removed the stricture, but failed to reduce the enlarged prostate but slightly.

In the treatment of morbid growths by electricity my successes have not been very decided, but in all therapeutic agencies I think it a very essential thing that our failures should be placed on record alongside our successes in order to determine the true merit of the agent.

In the treatment of goitre I have been very much disappointed in my results. One case as an illustration will show the *modus operandi* I followed in this class of cases, and I hope my failure will bring out some discussion on the subject that will throw some light on the cause of my failure: Miss T———, age 24, strumous diathesis, father and mother first cousins. Before coming under my supervision this patient was under the treatment of a specialist for goitre, who used hypodermic injections into the gland and as a result the growth was permeated by a cicatricial tissue.

I fully appreciated the fact that the dual character of this tumor would make it a very obstinate one to reduce. It was a very large goitre. I commenced the treatment by osmosis or cataphoresis, using an iodine solution. This proving non-effectual, I resorted to galvanism, applying the negative electrode to the growth and the positive pole to different portions of the back and neck, using from five to fifteen milliamperes and sittings of fifteen minutes and three treatments per week. After four weeks of galvanic treatment, my last resort was to electrolysis. The goitre had become very sensitive so I used injections of 4 per cent. cocaine and used a set of needles for the negative pole, while the positive pole was applied along the spinal colum. The needles were steel-insulated to within a fourth of an inch from the point. These needles were pushed well into the growth and a current from five to fifteen milliamperes for five minutes sitting. I sometimes used gold-tipped needles inserted as the positive pole. This patient was under treatment for twelve weeks with very slight diminishing of the growth, and finally I placed the case under the care of a surgeon who removed part of the growth. The cause of my failure to benefit this case I will leave for this meeting to discuss.

Baltimore, Md., April 1, 1899.

Discussion.

William Harvey King, M.D.: I wish first just to say a word on that part of the paper referring to goitres. You must be very careful in selecting the cases. A very hard goitre, one that has been present for a number of years, I do not believe it is possible to reduce with electricity, either by electrolysis or its external application. There is a class of goitres, however, which it is very easy to reduce and even to cure; that is that class which comes in young girls about the age of puberty or a little after, where they are soft, sometimes so soft, indeed, that you may think that you have a fatty or cystic tumor. But if they are allowed to continue they will grow harder and harder until they become of the hard fibrous type. This kind of goitre, or any kind of soft goitre, I believe can be greatly benefited by simply the passage of a current through the tumor, with the aid of iodine. And here let me call your attention to the fact that, contrary to the generally accepted notion, iodine does not go from the positive to the negative pole—but, on the other hand, it goes from the negative to the positive. A few years ago I received the greatest shock to my credulity that I have ever had. I had studied it, I had practised it, I had taught it, I had read it many times, that in order to get the cataphoretic action of iodine, you must place the iodine upon the positive pole, as it went from the positive to the negative. As a matter of fact it does not go from the positive to the negative and no one can possibly make it go in that direction. You can see it travel—if you have a tube divided by plaster partitions and containing starch solutions—you can see it discolor at the time of its passage, but that it will clear up afterwards, driving the iodine through the plaster partitions to the other pole. The treatment of soft goitres in my hands has proven most successful by the use of stronger solution of iodine driven into them in this way.

So far as electrolysis in hard goitre is concerned, I do not believe that it is of use. There is a kind of soft goitre, a particularly large, soft, or cystic goitre, which has been treated successfully in a few instances by the injection into that goitre of a saline solution and then passing a current through it by means of a needle thrust into the sack. Now, what we actually do in this case is not known. We know that if we pass a current through a saline solution we get a free concentrate of chloride; which attacks the hydrogen wherever it can and sets the oxygen free, which permeates, of course, the tissues; whether it is the chloride, or whether it is a combination of the chloride and hydrogen setting the oxygen, I do not know; but this treatment has certainly had some beneficial effect in large, soft goitre.

Regarding urethral stricture, I would say that it requires a great deal of knowledge in the technique to be successful in treating stricture of the urethra by electricity. This is, perhaps, very necessary in any form of treatment. I do not believe, however, that there is any part of the body where it requires such skill in manipulation if you wish to be successful in treatment as in the urethra. I have

never been able to relieve a stricture that was near the meatus. Why this is I do not know. The strictures that are most generally relieved are located back, say, more than an inch or two back from the meatus. However, there is one form of stricture which I wish to speak on here which is a very difficult one. I have never seen but two; they were located back in the membranous urethra. I attempted—both cases—to dilate, without success. Surgeons undertook to cut them, but no instrument could be found small enough to get through the stricture. For certain reasons the surgeons did not perform external urethrotomy. It was impossible in one case to get in any kind of an electrode, except over a director. An instrument introduced into the urethra, without any pressure made upon it, without a director, would set up such a hemorrhage that it would take hours to stop it, while if a director was used and the electrode over it, great pressure could be made without producing hemorrhage; in fact, there was no hemorrhage when a director was used. This stricture, as I say, was located in the membranous urethra. It had been dilated and dilated, and unless it was repeated every week it would contract, and when dilated more frequently he would have retention following the operation for two or three days. This case was treated not oftener than once in two weeks. The director was introduced and then a small electrode over, and which required considerable pressure and patience to get through the stricture. Not more than four milliamperes were used and the sittings did not continue for more than three or four minutes.

H. J. EVANS, M.D.: The electrode referred to is the one found in the Standard Genito-Urinary Electrode case. This case contains a nickel-plated metallic sound, flexible, and an inflexible urethral electrode and one dozen assorted olives, ranging from number 10 to 32, French scale.

This outfit can be utilized for any size stricture on nearly all occasions, except in very few instances where you may be compelled to resort to the Newman electrode whose individual use is limited to strictures of given size.

T. C. DUNCAN, M.D.: Why is the negative pole placed over the gland? A growth of this kind depends on the blood supply, and the blood supply is stimulated at the negative end of the current. My experience has been that a very rapid diminution of the gland has occurred by putting the negative pole to the spine and the positive over the gland.

H. J. EVANS, M.D.: We all know by the use of electricity that the negative current has the absorptive influence, and for that reason we apply the negative pole over these growths. That is the only reason.

W. H. KING, M.D.: I don't quite understand Dr. Duncan's question.

T. C. DUNCAN, M.D.: The point of inquiry was, why the nega-

tive electrode was placed over the gland. I think the size of the gland depends upon the blood supply and nervous integrity. I have been investigating along the line of spinal irritation being attendant, or one of the exciting causes of enlarged thyroid. My experience has been very satisfactory when I put the negative pole at the spine and the positive over the gland.

The Disorders of Emission and Erection.

By Clarence Bartlett, M.D.

The subject chosen for discussion at this session is, to judge by the frequency with which it is brought to the attention of the physician, a most important one, and yet it is greatly neglected in medical literature. It would almost seem that its study is beneath professional notice. If my hearers entertain such a view, let me offer the following quotation from a recent author as my apology:

"To write on the much-scouted subject of sexual impotence is a venturesome undertaking under all circumstances; but to write without the customary affectation and hypocritical rolling of the eyes, to speak the bare truth, surely requires even greater courage. Many an eminent medical man may have felt a secret desire to take the risk, but refrained from carrying out the resolution through fear of endangering his professional reputation. Some one not counted among the magnates of the medical realm may feel licensed to plunge to the very bottom to see what the gods have covered with darkness and horror, and may dare to relate to his colleagues what he sees and hears, without alteration or retouching.

"No physical or moral suffering, no wound, however putrid it may be, should frighten him who devotes his life to the science of man, and the sacred ministry which obliges the physician to see everything, to know everything, gives him also the right to relate everything."

I might say, moreover, that the professional neglect of this all-important subject has made it a fertile field for quackery. The extent to which these moral outlaws prey on the fears of their unfortunate victims can hardly be estimated. Let me give an illustration of their lack of principle. A number of years ago one of our students in conjunction with a young newspaper reporter conceived the idea of exposing this crying evil. He answered one of the numerous advertisements appearing in secular journals, accompanying the letter with a bottle of alleged urine, but which was in reality water stained yellow with saffron. The reply stated that

the writer was on the brink of a dreadful precipice, and that he could not undertake treatment too soon; that the specimen showed that the very fountain of life was ebbing away, and countless spermatozoa were discoverable under the microscope. Unfortunately for the contemplated exposé, the student died before the investigations were completed, and the young reporter grew older and obtained sufficient experience to learn that his employers did not care to hazard the patronage of such a profitable class of advertisers by publishing the results of the investigation.

Now I hold that in order to destroy the stronghold which quacks possess over these patients it is necessary that we, the members of the regular medical profession, must study their ailments with the same attention to scientific detail we accord to all other diseases. We cannot remain satisfied with a stereotyped diagnosis of impotence or seminal emission, but we must determine the particular way in which the sexual function is abolished together with the etiological factors which have brought about the diseased condition. Unfortunately, clinical methods have not advanced to the degree of accuracy necessary for this much-desired result. We must, therefore, remain satisfied for the present with doing our best, and trust to the future for the good results which will ultimately follow painstaking study and investigation.

The sexual act is an exceedingly complicated one. Its proper performance necessitates a practically normal condition of the entire body. It is depreciated in a general way by ill-health. It cannot be normal excepting in the presence of healthy brain and spinal cord, and the various structures making up the sexual apparatus itself must be sound.

Disorder of each of these factors then may bring about a sexual abnormality, the character of which may vary according to the nature of the pathological disturbance. Bearing this in mind, the following classification of the abnormalities of erection and emission is proposed. It cannot be regarded as clinically or pathologically accurate. It is simply a convenient one for use, until our clinical knowledge approaches a greater degree of accuracy than it does at the present time.

Psychical abnormalities of erection and emission probably comprise the largest number of cases of the sexually unfortunate. They also include the largest number of cases supporting quackery. Studied as a class, it will be found that they are persons of neurotic constitution who have practised some sexual abuse and have awakened to the folly and immorality of the habit. Then comes a pe-

riod of introspection and self-accusation, followed by forfeiture of self-respect. If with this state of mind the patient attempts sexual intercourse, especially in the marriage bed, it is not unusual for his power of erection to fail him or for emission to take place at too early a period of the sexual act. Several years ago I was consulted by a young man of this class above described. He had been married but recently, but erections departed as soon as he attempted entrance. He was evidently too anxious. Moreover, his repeated failures were wearing on his mind and bringing about a condition of hypochondriasis. He was advised not to attempt intercourse for six months, but that he should continue to room with his wife. He made up his mind to obey, and his mind was put at ease. He disobeyed inside of two weeks, as I expected he would, and remained well from that time on. In another class of cases, the trouble is found in a lack of congeniality on the part of those engaged in the sexual act. One of my patients, a traveling salesman, had long been a man of the world. After an attack of what was called "brain fever" he became neurotic. From that time he described his sexual instinct as deficient. Specific inquiry revealed that his real trouble was the possession of a conscience. Formerly he had thought only of his own animal instincts. Now the indulgence in illicit intercourse awakened thoughts of what he was doing, and called forth subjective speculations as to who had "been there before him," and then his erection left him.

Ill-health or frigidity on the part of the wife may exert great influence in restraining the sexual desires of the husband. I was consulted not long ago by a gentleman because of the entire disappearance of his power of erection. His wife never experienced a sexual feeling, and he had been obliged to refrain because of a pelvic trouble which she had had since childhood. Formerly he had been of strong sexual temperament. At the time ikshugandha was being exploited as the great remedy for inefficient erections, and I prescribed it. In a few weeks the patient reported himself all right, but said that "he had gone out" and as a result had discovered that his impotence was psychical only. Knowing that he was all right he did not care to repeat the experiment.

A not uncommon class of cases of psychical impotence is that in which the absence of desire and erection is coincident with mental work and anxiety. Thus I have seen numerous men complaining of declining powers, who stated that as soon as the worries and cares of business were left behind that the normal vigor returned. I have always regarded such a state of affairs as physiological and

desirable rather than otherwise. There can be no doubt concerning the wear and tear of sexual indulgence by those whose nervous systems are subject to heavy demands. The absence of sexual longings in such individuals must be looked upon as conservative, and not to be interfered with by any treatment which does not at the same time improve the general nervous tone.

The relationship between traumatism and sexual disturbances seems to be misunderstood with too great frequency. There is too common a tendency to regard deficient erections following traumatism as due to organic lesions of the erectile centers on the cord. When such is the case, however, it has been my experience to find that the motor function of the bladder is also poor, and also that the neurotic symptoms usually associated with impotence are absent. This seems to be the proper place to remark that in all cases of absence of erectile power due to locomotor ataxia, myelitis and other organic spinal cord diseases, occurring in my practise, the patient has viewed his sexual weakness with equanimity and has not displayed hypochondriacal and other neurotic phenomena. A good illustration of the influence of traumatism in awakening latent neurotic disorder is that of a patient who consulted me for relief from the results of a blow over the dorsal region received about one year before. He exhibited marked lack of self-confidence, general nervousness, occipital pains and lack of sexual desire. He had recently engaged himself to be married and was in fear and trepidation lest he had been rash in this respect. There were periods of a week or more in which he regarded himself as absolutely normal. While he has improved greatly, there are still times when he is markedly nervous. The diagnosis of such cases rests upon our ability to exclude evidence of organic disturbance of other spinal functions. It is inconceivable to me that a traumatism of the cord can destroy or damage the sexual centers without affecting contiguous structures to some degree at least. In the absence of such evidence I am inclined not to attribute deficient erectile powers to anatomical changes. Such cases must, therefore, be treated upon the same general principles as govern us in the management of neurotic subjects generally. This point does not seem to have received attention in damage suits when awards of many thousand dollars are given for diminished sexual capacity.

Impotence from so-called irritable weakness represents a very large class of cases. These are characterized by premature ejaculation, more or less constant sensitiveness of the prostatic urethra, deep urethral congestion and tendency to slight hemorrhage fol-

lowing the introduction of sounds. The majority of these cases are associated with the nervous phenomena observed in conjunction with psychical impotence, but I believe that they are secondary. The sexual difficulty is as a rule dependent upon some local lesion, as narrow meatus, urethral stricture of large or small caliber, phimosis, chronic prostatic disorder, seminal vesiculitis, or chronic urethritis, the cure of which is necessary before the sexual disturbance can be relieved. The majority of patients belonging to this class—I might with propriety say all—are possessed of strong sexual desires, which they make no effort to control. On the contrary, they are inclined to encourage their libidinous feelings, spending their idle moments in erotic fancies, preparing for orgies at the first opportunity. Such a mental and moral state of course increases the local hyperemia, thus intensifying the lesions and their consequences. It is said that a dead Indian is a good Indian. These patients are only good when they are removed to a place where the female sex cannot enter. Unless they are so treated, I do not believe that their cure is possible. We can dilate and cut strictures, we can express the seminal vesicles and keep them clear of inflammatory products, we can circumcise, we can diet and we can administer carefully selected remedies, all without avail if they persistently keep their sexual organs in a state of constant hyperemia.

Paralytic impotence includes those cases arising from organic diseases of the nervous apparatus of the sexual organs. It is this variety which occurs in the course of locomotor ataxia, myelitis, etc. Its prognosis is necessarily unfavorable. It is not so unfavorable, however, as generally believed. Several times have I seen cases of this character in ataxic patients make a good recovery, although none of these fortunate patients have been permitted to indulge with anything like their former frequency. The emissions in paralytic impotence take place without any force, indeed the semen may be said to "dribble."

In the clinical study of impotence the normal condition of the individual must be kept in mind. Men vary in sexual as in physical and mental force; the appetite for sexual pleasures is as varied as that for food or their capacity for mental action. Men do not worry because their capacity for understanding mathematics or for acquiring languages is not equal to that of their neighbors; but let a man discover that his sexual capacity is limited and immediately he ignores his physiological standard and makes haste to a physician or quack for advice. Their conduct would make one believe that the main point in life is to become a sexual gymnast. A philosophical

temperament is an important adjunct to the peace of mind of these self-styled unfortunates.

There remains for consideration a class of cases which have not received much attention from the medical profession. I refer to those in which the deficient erections are dependent upon disease of the vascular apparatus of the penis. Occasionally one observes cases (they are rare) in which the turgidity of the penis is not maintained because of varicosity of the dorsal vein of the penis. Such cases may be relieved promptly by surgical measures. Far more common are those instances in which the vascular tissues of the penis undergo degenerative changes along with the general arteriocapillary system as in arteriosclerosis, atheroma from advancing years and lithemia. The treatment of such cases is that of the constitutional disorder. Doubtless much of the impotency of advancing years is due to vascular degeneration in the penile structure.

The clinical study of seminal discharges seems to be as remiss as that of impotence. Routinism and a lack of understanding as to the physiological standard are responsible for most errors. The generic term spermatorrhea has been used to cover all cases coming under this heading. This is a serious mistake, for true spermatorrhea is a rare condition and should be limited as a title to cases in which the semen escapes without force or sensation during the waking state.

The form of seminal loss most frequently observed in practise is known as nocturnal pollutions or emissions. The public requires considerable instruction on this point. It is a prevalent idea that semen lost during sleep is a drain on the system. In point of fact such losses must occur with every normal individual who does not empty his seminal vesicles by natural intercourse. The frequency with which emissions may occur and still be within physiological bounds varies with the individual and his habits, just as may the capacity for gratifying normal sexual desires. The only rule that can be formulated is that emissions that do not debilitate the individual on the following day, or indeed give him a sense of relief, must be physiological. One must not be too ready, however, in drawing conclusions from the converse state of affairs, *i. e.*, when emissions are followed by some degree of physical or mental depression, for it may be that both the depression and the emissions may be symptomatic evidence of a general neurasthenic state. Or, again, the depression may be a simple coincidence. The danger in these cases is that the ignorant, especially if their habits have been such as to lessen self-respect, attach great importance to the loss

of semen. If with these fears they consult their trusted medical advisers no harm results. Unfortunately, overcome with a sense of shame, they go to strangers. Several years ago there came to my dispensary service a bright boy of 16 years. He was in a highly nervous state, and it was with the greatest difficulty that the cause of his condition was narrated, when he finally blurted out, "I had an emission." He belonged to a well-to-do family, but having no money himself, and not daring to consult his parents or their physician, he came to us. A little good advice relating to the propriety of making his parents and their doctor his confidants proved invaluable to the little fellow. Of course there are many who take the common-sense view of things and place their confidence where they belong. With pleasure I can recall instances of boys of this class who have been taught that they find their best friends in their parents, and who have gone to them for information concerning the sexual phenomena which they do not understand. I can say that the frame of mind produced by such action has always inured to the advantage of the youthful sufferer.

Lack of exercise and excessive mental application are responsible for seminal emissions which would not otherwise occur. One of my patients, a boy of 15, was having his emissions two or three times weekly. He was a hard student. He was advised to ride his wheel to school each day (he lived fifteen miles out of town), which course at once reduced the emissions to once in three weeks. This was the first case in which I advised bicycling exercise for the relief of seminal emissions, and I must confess, in view of the many things said against bicycling, that I had my misgivings. There is no doubt that improperly constructed saddles may do considerable harm by perineal pressure. If, however, riding is indulged in with a saddle supporting the ischial tuberosities, as the Christy and Bernasco saddles, I believe that genital irritation is practically impossible. There are very many who look upon bicycling as undesirable exercise for the sexual neurasthenic, and who advocate walking. However good pedestrianism may be from a theoretical point of view, it is too automatic for these patients, as it gives them every opportunity for introspectiveness. If the walking is combined with any amusement that keeps the mind employed, as golf, companionship, etc., then, of course, it cannot be criticized.

The escape of semen during stool is not uncommon in continent individuals of constipated habit. Several years ago I looked up the literature of this subject from a physiological standpoint. I was surprised to find that Kirkes stood alone in referring to it as a condi-

tion which could occur in perfectly healthy individuals. A priori reasoning certainly justifies this view. If the examining finger of the physician in the rectum can express the contents of the seminal vesicles, it is not unreasonable to suppose that straining at stool to expel accumulated hardened feces may do the same thing, especially if the patient indulges in sexual intercourse at long intervals and maintains the vesicles in a state of more or less constant distention.

Healthy sexual excitement, especially if prolonged, is not infrequently accompanied by a slight discharge of a clear, glairy substance from the urethra. This is viewed with concern by some of those who have this condition. Under no circumstances can it be regarded as other than a normal phenomenon. Very susceptible individuals may have it to a comparatively inordinate extent, but even in them it is not to be taken as evidence of sexual weakness or irritability, but rather as the result of a neurasthenic state.

One thing has impressed me regarding the majority of cases of sexual neurasthenia, and that is the bad sexual habit to which the trouble is due has not been practised to an inordinate extent. Hence the resulting neurasthenia can hardly be attributed to seminal losses or abnormal excitement. I incline to the view that the evil results are due to the forfeiture of self-respect or to the practise of onanism at a tender age by persons of strongly neurotic predisposition.

Coming to a consideration of those cases of seminal losses of pathological character, we have those dependent upon bad sexual hygiene, but which are so recent in origin as to disappear promptly on the cessation of the bad habit. These include cases arising from masturbation and the various practises indulged in for the prevention of conception.

Some of these cases present very peculiar histories and are good illustrations of the remarkable ignorance prevalent concerning sexual matters. One good example has been quoted by me before. It was that of a clergyman whose family was increasing more rapidly than his means, and the necessity for prevention became evident. His conscience permitted him to refrain from intercourse only. He still continued to room with his wife. Naturally, the cause for more or less constant sexual excitement and self-restraint was always present. Naturally, too, this prolonged state brought about disturbance of the sexual function. The organs became irritable, so that the slightest caress of his wife produced an emission. His ignorance caused him to have morbid fears, and when I saw him

his mental state was a serious one. A return to proper sexual practises brought about a very prompt cure.

Involuntary emissions taking place during the waking state are always pathological. Fortunately they are very rare. They are curable only after long patient care with strict enforcement of good hygiene.

The incompleteness of the above résumé of an important subject is appreciated by no one more fully than myself. It would be desirable to say much more, especially in the line of treatment. For this, however, there is not the time. I must say, however, that each case is to be treated constitutionally and medicinally without empiricism. Success is not to be attained by routine methods. Good sexual hygiene, mental and physical recreation, hydrotherapy, proper diet, etc., are all essential therapeutic factors.

There are two points, however, on which we as a profession should take a stand. The first concerns marriage. Marriage is altogether too noble an institution to be polluted by introducing wedlock as a legitimate part of the pharmacopœia. How would any of my hearers like it if he learned that his wife had taken him for better or for worse by the advice of her physician? How would he like to be accepted as a dose of medicine and put in the materia medica along with ipecac, castor oil, nux vomica, phosphorus, etc.?

The other question relates to advising illegitimate intercourse. To give such advice is dangerous in the extreme. I remember reading years ago of a case reported by Otis of New York, in which a young man from the country visited his city brothers, who took him out to cure him of his emissions. He succeeded in contracting gonorrhea, chancroid and syphilis the first time. This is the politic ground. The other is that of good morals, against which the advice of the physician should never be given. The safety and happiness of society demand this.

Discussion.

N. B. Delamater, M.D.: I simply want to say that I thank the doctor from the bottom of my heart for this paper. I want to say, in addition, that the teacher of neurology who does not call attention of his classes to these matters fully, carefully and completely every winter is derelict in his duties and has no business to be a teacher of neurology. That is all I want to say on this paper. It is full and complete and I want to thank the doctor.

John L. Moffat, M. D.: I understand that incomplete sexual intercourse, no matter what the modification, is apt to have a bad effect sooner or later upon either the man or the woman. What can the family physician safely advise when a married couple really

cannot afford to have any more children? Syringing is unreliable unless done immediately; in that case the disturbance of repose is harmful.

S. H. TALCOTT, M.D.: I want to thank Dr. Bartlett for his interesting paper. It seems to have struck the key-note of that which is right and beautiful and most commendable in human action on a very important point. As a rule, I believe that we should teach the doctrine of self-restraint in sexual matters, and yet I have now and then seen a case where the patient thought that he was injured by too much self-restraint or self-repression. All functions have their proper uses, and lack of proper use might work injury to the individual.

I would like to say just a word about this matter of circumcision. I think it is a good thing in all cases where there is a tendency to sexual aberration. I remember I had one patient about 45 or 50 years of age, who was afflicted with phimosis. He suffered as a consequence from melancholia for more than eight years, being confined during all this time in various asylums. Finally he was circumcised. He immediately began to improve, and in less than six months made a good recovery, gaining in weight from 112 to 165 pounds. He also recovered his normal spirits, and now for several years has been earning a good living as a lawyer in the city of Brooklyn. I could tell you of other cases, but I know your time is valuable and that you have other work to do.

N. B. DELAMATER, M.D.: In regard to abstaining or partial abstaining I do not think that partial intercourse under any circumstances is for the good. You cannot limit families without injury.

T. G. COMSTOCK, M.D.: I am glad that Dr. Bartlett did not propose remedies for impotence when our patients come to us, and believing that there are some remedies that they can take and that quack doctors favor, reminds me some years ago when I was in the clinic of Dr. Yandell. He was a celebrated physician and Professor of Surgery. A patient came to him for impotence and he delivered a very interesting lecture on the subject. He spoke of the different remedies for impotence and, among others, he referred to damiana, which was recommended years ago. Damiana, he said, appears in all the medical journals, particularly allopathic, as a remedy for impotence; it costs a dollar and is a Mexican remedy." "We have used it a great deal," he said, "and tried it a good deal, but, gentlemen, good-bye, Damiana; if all that has been said about you is true, there is not soil enough in the world to raise the quantity that would be required!"

Auto-Intoxication, as Influencing Cases of Mental Depression.

By Willard B. Carpenter, M.A., M.D.

It required more than mere clerical knowledge to declare in a recent address that "It is not wonderful that we die; it is far more wonderful that we live. The elements are against us from the beginning. The erect position which God gave is against us, and we must pump up the nourishment to the brain against the mighty force of gravity which constantly fulfils the decree, 'Dust thou art and unto dust shalt thou return.' We engender poisons within ourselves and no adherence to the rules of hygiene can wholly prevent it. The very thought that aspires so high, the feelings that diffuse themselves so widely that they take in the whole human race exhaust us, consume us; and so wherever we are, we are journeying by day and night toward our own last resting-place." This brings to mind the fact that with the very beginning of life starts a contest in cell activity between the powers of life-giving and life-sustaining effort and those of depression, decay and death. In a normal, healthy human being all the vital processes tend to maintain intact all their initial integrity and to repair all inroads of attack from without and from within the organism, and thus continue their existence through the millennium. But this vital force depends altogether upon nutrition—the assimilation of nutriment—and right here is the great open door through which from various directions come the attacks that compel the processes of health to become the processes of disease, and the forces that naturally make for health to become their own destroyers. All the later studies into the origin of disease prove conclusively that a man's enemies are frequently of his own physical household, and the late authors unite in giving the following four types of disease-inducing causes: (1) Faulty nutrition, (2) nerve reaction, (3) disturbances antecedent to nutrition, and (4) infection. But to the last only of these several types will we give particular attention now, and that so far as the infection arises from changes and elaborations inside the body, and in turn are the effective, provoking cause of melancholia.

Man and microbes are no strangers, for from the first day after birth bacteria are found in the various channels of the body and infectious agents innumerable surround the being every moment and everywhere; but upon the healthy organism they are absolutely inert. These microbes, with the mineral substances introduced with the food, constitute the great toxic menace from the outside and become an effective poison only when associated with deranged physiological processes within. It may seem anomalous to say that a physiological process could become dangerous, but such is the fact—in its excess, in which case are seen alkaloidal ferments similar to those alkaloidal substances due to microbial action. Add to these the alkaloidal poisons due to digestion of foods and the toxines from intestinal putrefaction, and the list is complete of those poisons which man receives or elaborates for his own suicide. And suicide would actually result did not these toxic substances pass out by specially arranged organs and functions; and it is only when these organs and functions are obstructed to some degree that deleterious results follow by absorption of the poisons referred to. The soil becoming bad from faulty nutrition or from contact with irritating or decaying substances, furnishes a nidus—a tube for the culture of these foreign or autotoxic substances. Autotoxic troubles are polymorphous and may result from one or more of a large number of factors—the source, dose and track of the poison elements and the attempts as well as power of the organism to neutralize or eliminate them. With others, we claim that the sources of these toxic materials are four, *viz.:* the tissues, secreting organs, foods, putrefactions; each constantly sending its contribution of toxicity to the blood, which in turn depends on the emunctories for relief, failing in which, faulty and toxic itself, the blood carries in its foul current depression, imperfect nutrition, enervation, and forgets its true mission of conservation. The organs charged with preventing or relieving this toxic condition are the intestinal mucosa, the liver, the kidneys, spleen, thyroid body, suprarenal capsules, the sudorific and some other glands; and the imperfect action or obstruction of any one of them does produce in some degree an auto-intoxication. This, through nerve influence that binds the whole mechanism into one organic whole, spreads from neuron to neuron, from periphery to center till the blighting is felt at the citadel of life. Let this injury be repeated from the same source and from correlated and associated sources and the *depression* continues till material and at times permanent inroads are left upon the hertofore healthy, normal being. An unsound, unphysiological body means an unsound mind,

because the mind must have gilt-edged, well-tempered instruments for its manifestation.

A depressed body, a depressed mind.—The arrhythmia of chronic dyspepsia is due to to some toxic principle (probably carbonic acid) acting on the medulla. Such sufferers are depressed in the morning on awakening, with an aching circle around the head; fitful, fretful, uneasy disposition with insomnia and vertigo, sensibility to cold and sad derangement of the special senses. The fermentative products of digestion are set free in the circulation, deprive the neurons of proper nutrition, associate themselves with the formation of micro-organisms and are attended by bacterial necrosis until the nervous systems, neurons and axes all feel the effect of the virulent toxic agents; till what was a half-hour's depression in the morning, easily thrown off, eventuates in a profound depression of spirits with all its tendencies and perversions known as *melancholia.* The legacy of many a human being is a neuropathic state, showing some stigmata of degeneration—mainly a fragile, unstable nervous constitution—the evidence may be headache or simple nervousness, or only eccentricity. Imagine such an one with these peculiarities to be affected by the conditions heretofore described, and what more reasonable to expect than that the gloom of melancholy should permanently follow the awful physical depression? I search the classic articles on this disease or mental condition for causes, and the list is long for effect of worry, work, strain, old age, excesses and excitements of all kinds, but not a hint from any but writers in the last few months about the effect of self-engendered, non-eliminated poisonous matters to tear down both body and mind. It is an axiom that every cause must have its effect, and what more reasonable than that these poisons, alien as they are, should produce the same deteriorating effect that they would in any other place than the human body? And if the great nerve center is affected as a part of that body, what is to prevent the mental depression (or anemic exhaustion, which it really is) from appearing and increasing? This certainly would be the reasonable presumption. Now on the other hand, reason from effect to cause. You never find a hypochondriac without defective alimentation and signs of intestinal inactivity—heavily coated tongue, fetid breath, fitful appetite and longings, constipation, some urinary irregularities, the sallow, earthy hue of hepatic torpor and a peculiar odor eliminated by the skin and due to fatty acids which should have been taken care of by the liver and kidneys. This odor is said to give warning absolutely true that nutrition is deranged by depressing toxic influences acting through

the nervous system. And it is a noteworthy fact that these conditions of faulty elimination and nutrition in the majority of cases exist in some form or other *before* the manifestations of the mental depression.

Now we are face to face with the sluggish action or obstruction of the abdominal organs—what do we find? Organs retaining what they should have elaborated more perfectly, or eliminated entirely from the economy. In the intestines, greatly distended with effete matter, we find the following: mineral substances (chiefly potassa) and the products of their reassimilation; products of putrefaction, including ammonia; organic products, including bile—and any or all of these may be reabsorbed by the intestinal mucous membrane. When renal insufficiency abounds we may and usually do find urea, sugar, soda, extractive matters having powerful influence on nerve-centers, bile-coloring matters, heat-reducing poison (not named), cholesterine, but with no excess of phosphorus and products of putrefaction. The liver function must be normal or else all the elements that should be changed or elaborated therein are turned into the blood-current to be disposed of elsewhere—hence here again the necessity of perfect kidney action, in which case the faulty and diseased products from the other organs and tissues are sent from the system in time enough to prevent injury. The other emunctories, the pulmonary and cutaneous, are less important but proportionately necessary to a healthy, vigorous, non-toxic being. Of all these sources of auto-intoxication the chief, doubtless, is the intestinal, and this is a matter of theory and also of demonstration.

We note again that the sources of this toxic tendency are foods, bile, putrefaction, organic waste. Here the *potassa* is wonderfully and emphatically a depressing poison with action on nerve tissue from peripheral ends through spinal cord to cerebrum, and through vasomotor tract to heart and blood-vessels, inducing anemic tissues; the *indol* is the source of the poison *indican* eliminated by a healthy acting kidney; the *bile,* whose bilirubine and derivatives carry depression in their wake, presents a compound destructive to healthy function; *the fermentative products sulphuretted hydrogen* and *ammonia* show a readiness to induce copremic intoxication, unless there be free kidney action, and with this appear the subjective symptoms, "depression, mental and bodily, headache, buzzing in ears and deafness, errors of sight, vertigo," real precursors of dangerous objective physical and psychical conditions; *acetone, lecithin, muscarin, cholin,* and *alkaloidal products* which disappear or are inert when the system is protected by liver and kidney barriers.

These are the chief conditions and factors obtaining in intestinal torpor, and what can be the reply to the question, "Are constipated people healthy?" How can they be healthy? Your melancholic is always constipated and the "sufferings are chiefly subjective." "They experience nervous disorders of sensibility, headache, buzzing in the ears and deafness, psychical troubles." Strangely similar symptoms to those just pointed out as following absorption of self-elaborated poisons. Are we not authorized by this study to class auto-intoxication as a contributing, if not the primal, cause of melancholia? Yea, an absolutely necessary state to all cases of this malady except those due to traumatism or organic change of structure. Especially in those persons of natural or acquired fragile, vulnerable nervous system it seems to me both from presumption and demonstration that the poison of intestinal origin can be and must be the actual effective cause of mental exhaustion to the point of melancholia. We have long been taught that the nerve tissue depended largely on phosphorus for its effective condition, and that with the normal amount of that element the nerve equilibrium would not be unbalanced. Pathological examinations have been made of the brains of persons affected with melancholia and the normal amount and even excess of phosphorus found, the explanation of which is that by reason of diminished kidney excretion the phosphorus elements simply accumulated and were ballast instead of being actively incorporated in the tissues. So function does not depend altogether on anatomical or chemical composition of the organ in question.

Finally, there must be anatomical and functional integrity in all the cells that are engaged in building up and repairing and cleaning the body in order that self-poisoning may be avoided and the neurasthenia and anemia of melancholia give way to a vigorous, robust mentality.

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Discussion.

S. H. Talcott, M.D.: Dr. Carpenter has presented a brilliant, thoughtful and scholarly paper. If I were to discuss its demerits I should sit down at once. I want to say that I would be glad if I could emphasize everything which he has said with regard to one of the great secondary causes of melancholia. We think the primary cause of melancholia is shock—the shock of loss; loss of friends, loss of family, loss of hope, loss of prospects, loss of ability to fulfil cherished plans—all these produce a shock (primary) on the nervous system. This shock benumbs the nervous system, and

when it is thus benumbed we have a condition here throughout the body of a slowing-up of the processes of life, and this tends to bring on self-intoxication. The bowels become constipated, the action of the liver becomes sluggish, the stomach fails to do its work properly, the bowels become loaded and heavy, the kidneys work slowly, and, most of all, you will find a slow and shallow respiration, and it is this shallow respiration that prevents the oxygenization of the blood and tends to promote a loading-up of this blood with poisonous substances. It seems to me that it is possible that Dr. Carpenter left out one thing which he might have put in his paper profitably, and that is (having discovered the cause of melancholia) he might have stated some of the proper and best means for relieving the trouble. You find these cases, more particularly in melancholia with stupor, an auto-intoxication which resembles the poisoning of opium. The patient becomes mute, and in consequence lies quietly in bed, won't say or do anything, won't take care of himself, and, therefore, the patient must receive absolutely scrupulous care from the physician or nurse. I have seen some of these cases of melancholia with stupor where the bowels have not been moved for over a week, consequently blood-rot sets in, fever comes on, the temperature running up as high as 105, and the tendency to death is very strong. The first thing to do is to relieve the bowels of all extraneous substances by the use of large quantities of hot water. Having cleaned out the bowels, then you clean out the bladder, and also pay especial attention to the skin, because the functions of the skin are much impaired; they have to be stirred up again, and to do that alcohol baths and oil rubs come in very effectively. More than that, the patient must be taught to breathe properly. If you can stimulate respiration you will oxygenate the blood, and in that way facilitate recovery as far as possible. By adopting this plan—practically physical means—you may be able to save and cure a great many cases of melancholia, but if you fail to study these physical means for the care of your patient, you will certainly not cure your patients. As regards a remedy, when the patient is in this state of auto-intoxication, with rise of temperature and stupidity with delirium, baptisia tincture is one of the most effective. You may likewise have to resort to arsenicum, phosphorus, ignatia and other remedies according to the totality of symptoms as far as they can be discovered.

N. B. Delamater, M.D.: In this paper we have something that is of value. We have a ground covered by suggestions that it would be exceedingly advantageous for every physician to carry out in his own practise. The first suggestion that this paper makes practically is the importance of making a thorough, complete examination—that is, learning why the mental depression exists. The shock must be considered. In other words, the environments and life of the patient must be known and considered. The complete physical condition of the patient must be known from physical examination, also from the various kinds of analyses that can be made. The physical examination must include the eye. It must include the ear and so on through to the

feet. No physician has the right to treat a mental depression without having made a complete examination of the patient. The analysis should include that of the stomach, very frequently the intestinal discharges, and always a complete quantitative analysis of the 24-hours urine. You want to know the ordinary things that are learned by testing the urine. I make a distinction between testing the urine and analyzing the urine. In testing urine you must know not only the proportion and number of grains or grams of urea per fluid ounce, but know the number excreted for twenty-four hours, not only that for one day, but the average of days. You must know the phosphoric acid, as well as other things. In some cases you must also know the amount of unoxidized phosphorus being passed off in the urine in the twenty-four hours—the average quantity. These are as essential to the examination as a talk with the patient is essential. As to the element of auto-intoxication, I think it will be found present in some form in almost every case of mental depression. It may be an astigmatism, the deficient muscles of the eye, or other competent causes; but you will find somewhere a cause for the nerve-depression preceding the auto-intoxication—the intoxication preceding the mental depression.

CLARENCE BARTLETT, M.D.: The doctrine of auto-intoxication in general is one possessed of great fascination to all practitioners. Unfortunately, however, theories have been carried to unwarranted extremes and auto-intoxication has been made an alleged cause of illness to which it has no possible clinical relation. Exceptionally brilliant cures result from the removal of a hypothetical cause. Practically, if patients are made to drink plenty of pure water, to partake of the proper diet in proper quantity, and to exercise properly in a pure atmosphere and to avoid the alcoholic and tobacco habits all danger of auto-intoxication may be excluded. Theories, however, do not always accord with practise. One man sets up one poison as the most prolific disease-producing factor; another man has a widely different proposition. A personal experience of my own one year ago has prompted these remarks. I suffered from an eczema rubrum of the face and hands, necessitating a prolonged vacation. Metol, uric acid, tobacco, excessive mental application, rhus poisoning were in turn suggested as the certain cause. However, I recovered and do not know to what to ascribe the recovery. Moderate diet, free drinking of water, limited smoking and an open-air life were the agents employed.

There is a class of necrotic patients often encountered in practise who present urines of normal composition, but who excrete from one-third to one-half the normal quantity daily. Whether the deficient urinary elimination is a cause or concomitant of the neurasthenic state I do not pretend to say. They seem to suffer from a renal inadequacy, congenital, perhaps, just as do certain persons whom we are accustomed to call stupid or dumb, are victims of deficient brain capacity. Try as we will to bring up the renal secretion in these cases we fail utterly, unless we can get the patient to lead a physically active life in the open air.

In the case of men this is a comparatively easy matter, for we can order them to the woods with rod and gun or can advise some outdoor sport. In the case of women things are different. Conventionalities have surrounded women with so many unhygienic practises that the problem seems well-nigh hopeless.

S. H. TALCOTT, M.D.: I would like to inquire of Dr. Bartlett whether living in Maine, under the influence of the climate and a special diet effects the desired end? I heard of a man down in Maine who lived on squirrels and who became very active and supple as a result!

I would like to state that, as a diet in these cases, we give them hot milk in abundance every three or four hours. We put in plenty of salt in order to avoid the further tendency to constipation, and try to give them plenty of water to drink.

CLARENCE BARTLETT, M.D.: That would do in these cases.

S. H. TALCOTT, M.D.: Would not plainer diet answer every purpose?

T. H. CARMICHAEL, M.D.: I enjoyed this paper very much and enjoyed it more after hearing Dr. Talcott's discussion. It seems to me that Dr. Talcott's discussion of the paper supplements it and makes it more complete. To my mind the fact of melancholia coming through auto-intoxication, the development of toxins in the system as a primary cause is not satisfactory. It would seem to present a condition, so to speak, where shock coming to the nervous system directly and operating through the special senses of sight and hearing, or otherwise, constitutes the primary cause, and the two elements together make a complete picture.

T. G. COMSTOCK, M.D.: We have not heard much said about specific diet in this paper. Now, I am quite certain that cases of epilepsy and neurasthenia are influenced more by diet than any other treatment that may be given to them. Epileptic patients and patients with neurasthenia are found to have their urine much more toxic than others, and particularly just before the epileptic patient has a spell of convulsions, his urine, sweat and breath are all toxic. A great many of these cases of neurasthenia in women are affected with constipation. Some time ago I went through the asylum at Fulton, Mo. We came to a colony of epileptics and they were at dinner. I asked Dr. Murray Wilcox, who happened to be attending them, about eating. He said: "They are most enormous eaters." "Do you diet them?" "No, we do not." I suggested he put them on a specific diet, that is, give them entirely a vegetable diet. It was done practically within the next week and he has reported to me that it has improved the whole colony very much.

I want to mention one single case. On the 30th of December a lady came to me and said: "My son has fainting spells. He is a clerk in a railroad office." "How long has he had them?" "Every once in a while." I asked about his habits. "Well," she said, "he is not exactly a young man about town, but goes in society a good

deal and has those spells." I thought they were epileptic. She said he had been having an allopathic doctor attending him, had taken medicine, but had done him no good. I said: "Dear Madam, if you send your son to me and have him do just as I say, without any argument about it, I will take the case under treatment." "What will be your treatment?" And I told her what it would be, that he would be required to take nothing but a vegetable diet, with hot milk, as the doctor said (that is one of my remedies). The young man came to me in a few days; he was about 22 years of age. I told him that he must go from his railroad duties home, that he must give up society, give up skating and bicycling, live entirely on a vegetable diet, except eggs and milk, and that he must drink hot water, a glass and a half of hot water when he arose in the morning, one in the middle of the day and one when he went to bed. He said, "I cannot live that way." I said, "You can." Well, he said he would promise to do so, and that he would report every Sunday to me. He lived several miles out of town. Every Sunday he reported to me. As soon as he was through his business he went home. He indulged in reading books; he went to bed early and got up early; he took nothing but a vegetable diet. He reported to me every Sunday for six months. In the month of June General Crutcher of Chicago happened to be taking dinner with me when this gentleman came in and I asked him to see the case. He was particularly astonished. That young man had not had a single epileptic paroxysm for six months. He had no paroxysm until in September last. In September I missed him. He didn't come in. His mother in the meanwhile came around and said, "I am afraid, doctor, you are too strict in your rule of diet." I said, "My dear madam, didn't you say that you would not argue about it, but do as I said?" "I only want to speak to you about it. Don't you think you ought to give him some tonic?" He went on until September. I didn't see him any more until the 31st day of December, I following my treatment. I was sent for in great haste to see him. I found him in a paroxysm. The mother said that she thought I had been a little too strict; he was getting along so well; he had been skating, and in company, and drinking a glass of beer now and then and having a good time. He had this paroxysm and was in a state of insensibility for some hours, and they saw fit to call in another physician. He finally recovered from that paroxysm. I didn't see any thing of him from December to February, when I noticed in the paper that he had committed suicide. That is not the only case I have had. I have other cases that have improved on a strictly vegetable diet, but not as strict as that.

H. J. EVANS, M.D.: What reason have you for putting the patient on a vegetable diet?

T. G. COMSTOCK, M.D.: You will find that if you examine the urine of these patients living on a vegetable diet that it is not as toxic as those living on an animal diet. You do not have to combat with the ptomains in the body in giving the vegetable diet as in the animal diet. I will explain that. I have made these experiments time and again myself. I have gone without eating any animal food for

two or three months at a time, and I have never felt better in my life.

G. J. JONES, M.D.: I want to know how you can include milk and eggs as a vegetable diet.

DR. COMSTOCK: I think they can digest them.

DR. JONES: Will not that supply take the place of animal diet?

DR. COMSTOCK: Yes.

DR. JONES: But the vegetarian never touches milk and eggs.

DR. COMSTOCK: Anything that is good.

A. CROTHERS, M.D.: It is not a cause as much as it is a condition as regards this auto-intoxication. It is more than a condition developed, more than a result perhaps of an impression made on the nervous system and coming through that system reaching certain effects and conclusions, rather than a causative influence.

W. B. CARPENTER, M.D.: From the title of this paper it seemed to me that it was not intended to go into treatment. That is the reason that I did not offer any treatment. I think the discussions have produced the best part of the paper and I was very glad to hear them.

In regard to this being a *condition,* it is so, but that cannot take place without there being a cause, this cause passing its own peculiarities on, not only to its neighboring organs but indefinitely through nerve action.

As to the suggestions of Dr. Talcott, it certainly seems to me the very best thing that can be used, and I want to add the use of water by drinking it—drink it almost *ad infinitum,* so that it flushes every one of the emunctories, and so helps to relieve this condition that in turn causes the trouble mentioned in the title.

Indigo, Cocculus and Coca as Nervous Remedies.

By E. P. Colby, M.D.

It may appear unnecessary—even presuming—on my part, to select from our materia medica certain remedies and recapitulate a portion of their symptomatology. This can be done by one as well as another, for we all draw from the same fountain.

My only explanation is, that, having for a number of years devoted my attention and study almost exclusively to one class of diseases, my interest in the group has become earnestly enlisted, and it has awakened a desire to do whatever may be my duty.

Diseases of the nervous system are to a great degree chronic, and, as a rule, do not readily yield to treatment; one of the results of this condition is a tendency on the part of our profession to desert the traditions and experiences of the fathers, and to run after new and strange idols. If what little I can say will help to strengthen even myself in the principles of our faith, I shall consider that some good has been accomplished.

It is to be regretted that at the time our remedies were proved, the knowledge of the nervous system and its disorders was in a condition of absolute chaos. Therefore, symptoms were not closely watched and interpretations were erroneous. Objective phenomena of the greatest value were not looked for. There was no examination of the real condition of the eyes, ears, nose or throat. No means were used to ascertain the condition of the muscles, sensory conduction, or the reflexes.

We shall do well to bear in mind that at the time our older remedies were proved the profession was but just freeing itself from the trammels of the old humoral doctrine, and that their minds were actively occupied by the new psoric theory. Therefore, a great deal of stress was laid upon each spot or pimple upon the skin, scalp, or mucous membrane, and this to some extent diverted their attention from observations which would now be far more useful to us, their descendants and heirs.

Nevertheless, the records are so far complete that there is no

actual need of our wholly forsaking them, and subjecting our patients to experimentation with each new thing made from coal tar and patented by our enterprising German neighbors.

Our medical ancestors observed nervous symptoms of value, and registered them in such volume that we can make use of them if we will. It is much better to use what we have than to reject it totally because not all that we might desire.

The three drugs selected have many symptoms directly referable to the nervous system, and of these there have been selected those which are characteristic; but this is not intended to encourage neglect in the totality of symptoms, and in many instances the conditions of time and circumstance would point to some entirely different selection.

Clinical evidence in the way of reported cures always adds much to the interest of a paper; but it is doubtful if such evidence can be relied upon to any extent, excepting when it can be presented in such a mass as can only be found in the records of our large hospitals. For this reason but little will be said of this nature.

Those who are being addressed are experts in the phenomena of nervous diseases, and can of themselves judge of the manner in which the symptomatology applies to any given disease complex.

Indigo, cocculus and coca are not selected because they present a larger list of neurotic symptoms than many others, but because, judging from my own observation, they have been somewhat neglected, and that they seem to apply very directly to actual, and frequent conditions.

INDIGO.

Indigo does not furnish a multitude of symptoms; this arises in part from its not having been very carefully or very extensively proved.

The drug pathogenesy gives thirteen provers of whom only a few took more than three or four doses, the most extensive provings are from only six doses, and these taken at rather long intervals.

Drugs often have cumulative effects only elicited by taking quite frequent doses, and through comparatively long periods. This is probably true of most drugs acting upon the central and deep-seated nervous tissues.

The clinical effects are not to be discarded, although we must hold them as secondary in importance to the direct symptoms proved in the healthy organism.

Indigo should certainly be subject to a thorough new proving

with the benefit of all the latest physiological machinery and observation.

Indigo affects the mind and sensorium; as it is recorded that dyers in indigo become melancholy. There is the alternate action often seen in epileptics before an attack. Excited mood and desire to be busy. This condition is often noticed by nurses of the epileptics. It also has slight mental derangement and convulsions.

In the direct head symptoms we find excessive giddiness with headache. Giddiness and ineffectual desire to vomit. Various kinds of dull headache with pressure, this pressure becomes so marked that the head feels as though bandaged or screwed in on both sides. The symptom of flushes of heat rising from the stomach to the head is quite suggestive. Undulating sensation through the whole head rendering the sight more indistinct. Beating in the head as if from small hammers. Violent darting pains in right parietal bone, early in the morning, going off after rising. Various sharp and stinging pains in local regions of the head. Tearing pain in forehead in evening, with drowsiness and languor.

You will notice that with all these head symptoms (of which there are many more) there are no feelings of numbness or creeping in the scalp, and that they mostly are referred to the inner head —although this reference is not necessarily correct.

As having a possible bearing upon some of the vertiginous symptoms we find pains in the ears, and, still more important, pressure and roaring in the ears.

We have indications that reflex nasal symptoms may be developed, for there are—pains, tearing and cutting in the nose, titillation and excessive continued sneezing with epistaxis. These symptoms will not be overlooked when we reflect how often some, or all of them, occurred in our grippe patients with vertigo.

The fifth nerve is affected as we get evidence from the paresthesia of the face, and the sharp pains in the face and teeth.

The stomach and abdominal symptoms very fairly apply to some of the cases of hysteria which we often meet. Such as nausea with constant inclination to eructate, hiccough, unsuccessful eructation, vomiting of watery fluid or mucus, sensation of motion in stomach, pains in both stomach and bowels, inflation of the abdomen with shifting of the flatulence, frequent colic.

The urinary symptoms are the most constant, noticed by the most observers, and are all such as are caused by irritation of the bladder or urethra. Sexual appetite is first depressed, but later as a secondary symptom it is increased.

I need not speak of the somatic symptoms in detail and only say that they occur in nearly all parts of the trunk and limbs, and are shooting or stinging in character, with weakness in both upper and lower limbs, giving a fair type of the pains and weakness of hysterical neurasthenia; but we nowhere get the numbness and tingling of true hysteria, nor do we have the symptoms of neuritis or serious cord lesion. The pains are worst during rest and when sitting, and frequently disappear from motion, pressure or rubbing.

Indigo was for a long time used in traditional medicine as a remedy for epilepsy and I find nine clinical references to its use for that purpose.

I have now been trying indigo in nearly all my cases of epilepsy for the past twelve years, and the percentage of actual cures has been so much greater than from the bromides or any previous form of treatment, that I still continue to employ it with 10 per cent. of apparent cures, *i. e.:* patients who do not have an attack of grand or petite mal for over two years. This is not a sufficient length of time to entitle its being called an absolute cure; but it is about as long as one doing special work can keep in touch with his cases who are really not his own patients.

Many other intercurrent remedies have been given, but the indigo has been persisted in, as the patients learn that this is the particular remedy upon which they rely. In only three instances have I seen any exacerbation or felt called upon to leave it off.

Many more cases than were cured were much better while taking indigo, the seizures being reduced from weekly or monthly to only three or four per year.

The pathogenesy of indigo should lead us to give it more extended trials in neurasthenia or that not very common form of hysteria where pain predominates and with but few of the anesthetic paresthesiæ.

COCCULUS.

This drug has been quite fully proved. In the "Drug Pathogenesy" we find records of only cases of poisoning although there is a very imperfect proving of pecrotoxine, its active principle. But Hahnemann and his friends proved the drug, getting 500 symptoms as a result.

The symptoms of the mind, sensorium, and head, indicate that it exerts a very well-marked influence upon the cerebral circulation. The remedy has been most employed in gastric and intestinal troubles, but the condition of intoxication, even to suspension of the

senses, would indicate that it has a powerful influence upon the nerve-centers.

The mental symptoms are mostly those of confusion, with an undercurrent of melancholia. Where there is excitement or anger manifested it seems to be from having the luxury of brooding interfered with.

These peculiarities are instanced by the following symptoms. His thoughts are exclusively directed to one disagreeable object. A woman was absorbed in her own thoughts, and saw nothing around her. Absorption in the saddest thoughts. Absorbed in reveries. Nothing gives pleasure. Weeping and great dissatisfaction with himself. He is serious and not very apprehensive about his own health, but very anxious about the indispositions of others. How often we see a melancholiac without hypochondria, who cares nothing about his own physical system, but is worried and anxious if any member of the family is ailing.

The pupils are contracted. Anxiety as from a great crime, or as if an evil deed had been committed. Despairing mood.

The symptoms which may be referred to the head and brain are more indicative of disordered circulation than of actual impoverishment, even giving epileptiform phenomena. We find alternate going to sleep of feet and hands. Disposition to trouble. Paralytic immobility of the limbs. These may be frankly set down as hysterical.

In symptom 440 we have a picture supposed to represent epilepsy; but it is a far better counterfeit of hysteroid (hysteria major). There is a great weakness of the body, she found it difficult to stand firmly. Fainting fits. Limbs feel heavy and body so weary that she was unable to keep herself from sleeping.

The head symptoms are significant. There is vertigo as from intoxication with stupid feeling in frontal region. When raising himself in bed he has vertigo and inclination to vomit.

You will not find the ear symptoms sufficiently prominent to account for this.

Stupid feeling in the head with cold sweat on the forehead. He is obliged to read a sentence several times before understanding it. The head is painful as if tied around. Cloudiness in head. Nearly all the headaches are anterior to the bregmatic line and are rather dull and pressive than sharp.

While a portion of the gastric and intestinal symptoms undoubtedly are the result of indigestion, yet nearly half of them correspond to conditions which we often find in patients with melan-

cholia and tired-out brain cells. The symptomatology is within the reach of all, and I need not consume time by rehearsal.

The back symptoms, however, are so like those of many neurasthenic women that I may be pardoned for itemizing. Paralytic pains in lumbar and sacral regions. Spasmodic drawing across the hips hindering walking. The lumbar and lower dorsal spine feels bruised, but not increased by contact (the hysterical rachialgia is wanting). Tremor in the back. Tearing pain in back. Various drawing, tearing and boring pains in the back. Pain in the back when standing, as if one had made too great an effort, or as if one had strained the parts. Pain in the spine as if it would break. Tearing pain between the shoulders and spine. Stitching pain in the nape of the neck when bending the head either forward or backward. Painful cracking of the cervical vertebræ, when moving the head.

Rather than err on the side of prolixity many minor symptoms well in keeping with those mentioned have been left out. But I feel constrained to say, that if a small symptom is consonant with others, we are not warranted in labeling it "minor."

There are cases frequently coming before us where the overworked professional man, or the overworked woman, subject to the worry and stress of an exciting social environment, presents a group of symptoms such as might be readily selected from the provings of cocculus.

If compelled to give my pathological hypothesis, it would be that there is a condition of central exhaustion, resulting in a cerebral hemostasis, possibly through the vasomotor control, resulting in not alone impoverishment of the cellular structures, but in the actual poisoning caused by the products of their own metabolism.

Here we have, indeed, the confusion, stupidity and vertigo, with a melancholic tendency. The result is far different from the more active condition of pure hysteria, represented by the symptomatology of Paris, stramonium, pulsatilla, and more than a score of other drugs.

The rachialgia of the more common form of neurasthenia has the tellurium sensitiveness of the spinous process; but it must be remembered that the ordinary type of so-called neurasthenia is more than half hysteria, and is the probable result of cellular starvation.

It is much to be regretted that this drug has not been thoroughly proved with all the modern tests applied to the eye and ear symp-

toms. If you will read the symptomatology you will find much to be lacking in this line. Still enough remains to be extremely useful.

COCA.

In the sketch of coca the symptoms produced by cocaine will not be considered, as in instances of poisoning by that drug, the nervous symptoms are mostly those relating to acceleration of the heart-beats, and a decided disturbance of the vasomotor control, important in themselves, but not directly applicable in general nervous disorders. Nor should the local sensory paralysis be considered in this relation.

Coca has been very generally used as a nervous tonic, and has given many the impression that this is its legitimate sphere; but when so used the totality of its symptoms is wholly ignored. Further than this, there is always a doubt if the vinous menstruum is not answerable in an equal degree for the exhilaration and sense of well-being.

For it must be remembered that all the preparations of coca commonly used are tinctures prepared with Burgundy or some kindred wine.

Coca has been proved by several experimenters and the records are moderately full. In selecting those symptoms which have a direct application in nervous troubles we find as follows, the experimenters being twelve in number, and taking from two to twelve doses each—Giddiness, relieved by rest. Wakeful. Sleepy, but cannot sleep. Irritable, weak and tired. Feeling of exhaustion in the head. Flashing of light before the eyes. Ability to sit up a great part of the night and write without much fatigue, two days later slept soundly in the day time and at night (this may have been the natural reaction and not a direct result of the drug). Giddiness with whirling in the head. White spots and bright serpentine lines before the eyes, followed by weariness, and pressive headache, this again followed by indigestion and nausea. Afternoon occipital headache. Sensation of deafness without any real depression of the function. Some humming tinnitus. Dyspnea without any thoracic cause. Diplopia so that he seemed to be using two pens, and the letters became confused, followed in two hours by severe headache, and humming in the ears. (These symptoms were repeated in one prover.) Great nervous excitement. Anxious dreams. Great confusion of head, so that he cannot read intelligently. Palpitation. Tension in forehead. Pulse increased 64 beats per minute,

with tinnitus (temperature not given). Several provers felt exhilaration and desire to work as though impelled. This corresponds somewhat to the overpowering desire to work which precedes many cases of neurasthenia.

Coca dilutes the pupils as does belladonna, and causes the same intolerance of light. When habitually used it causes timidity, fabricates visions of various kinds, beautiful and horrible, in which it compares with cannabis indica.

If we analyze the twelve provings we find that six had pain in head. Four had well marked eye symptoms. Four had palpitation. Three suffered from vertigo. Eight had excited feeling with unusual capacity for work. Seven had their sleep decidedly disturbed. Four had exhaustion either alone or alternately with the excitement. Four had dyspnea. The pulse was taken in but two instances, and in each increased in frequency.

It is somewhat surprising that we do not find any symptoms which can be directly referred to the peripheral nerves. All the more so as the benumbing effect of cocaine upon the terminal twigs when locally applied is so very marked. We should naturally expect that coca when taken internally would have given us symptoms of sensory paralysis, or secondarily neuritic pains.

I think if the symptoms are carefully studied it will be found that coca is unusually well adapted to a large class of neurasthenic cases. It has the previous mania to do something, followed by exhaustion, and headache with vertigo and tinnitus.

No other remedy has more exactly the classical headache preceded by flashes and fortification lines of light, and by vertigo, and with some provers there was also vomiting.

We can see from reading the symptomatology why the various proprietary preparations of cocoa have acquired somewhat of a reputation.

Several years ago it was my fortune to have a patient with progressive muscular atrophy where the disease produced death from trophy of the thoracic muscles. For some time before the termination the suffering from dyspnea was intense. Remembering how coca is used by the Indians in the higher Andes to prevent the *"veta,"* I gave the patient an infusion of coca, and while the result was not exactly marvelous, it was at least quite satisfactorv. The system seemed to more readily submit itself to the diminished supply of oxygen, and there was a decided relief.

The Final Tribunal in Cases of Insanity.

By J. T. Greenleaf, M.D.

To any student of the history of the past century, following it over its brilliant and progressive course, it is quite patent that the great change in the care of the insane is not by any means an event of remote occurrence.

Here in this beautiful place, surrounded by all the comforts that wealth, luxury and taste can offer, one can almost hear the clank of the chains, see the poor, cowering creatures as they shrink from the blows, or hear the wails and cries that cold and want, that suffering and neglect force from their lips under the old régime, when an insane patient was supposed to be possessed of the devil, and to be acting under suggestions from that baneful influence. All hail the great and happy change! All hail the humanity, gentleness, the tenderness with which these people are treated to-day! All hail the skill, the experience and the judgment which is employed in their care in these closing days of the century!

In common with every improvement in the methods of dealing with either crime or disease, the main ideas, the underlying principles have been discovered and adopted by degrees, and in many cases in the face of fierce opposition from those that belong to the conservative part of the scientific world.

Reforms are like edifices in a certain way, they are built upon foundations of fact, or need, or humanity. They are erected as rapidly as the times will permit. Around both it is necessary to employ more or less in the way of scaffolding, to permit the workmen to get at the task which is set before them. In the erection of structures the scaffolding is all torn down and thrown away as soon as the building is completed.

With reforms, many times, more or less of the scaffolding remains, and to the casual observer it appears to be a part of the structure when it is only a stepping-stone to the completion of the enterprise.

Part of the scaffolding which surrounds the better care and

treatment of the insane is the idea that insanity is a matter of morals and not of disease, that the lunatic is to be blamed for his conduct, and that the penalty therefor should be visited upon him with more or less severity.

Inhering in this aspect of the question is the use of a jury of twelve or more "good men and true" as the final standard before which an alleged lunatic should be brought. This is not unnatural, in fact, it is quite the logical sequence of the old idea that insane people were morally derelict, and for this reason, that the same tribunal of which every Englishman and American is apt to be proud, as being one of the bulwarks of individual liberty, should also be that to which a man's sanity or insanity should be referred.

It is a source of congratulation to all who are interested in the progress of the human race that it is at last agreed upon that insanity is a disease.

Such being the case, it should be classified with other maladies, at least as far as the treatment of those who are suffering therefrom is conserned. The scientific study of mental disease is yet quite a youthful member of the coterie of brilliant and philanthropic pursuits which has marked the last fifty years of the present century.

One of the evidences of the fallacy of the old position is the fact that up to about two decades ago the legal fraternity were wont to use the opportunity for the release of criminals, offered by this idea, with such persistence that the bench were compelled to make a *lex no scripta,* however crude and unbending it might seem to be not to accept such a plea in criminal cases.

To even a casual examiner of the statutes of the various States of our Union it is very evident that this problem, that of establishing a safe and correct tribunal, or standard, for a decision in cases of insanity is nothing very new because the variety of expedients which have been adopted by the law-makers of the States is very wide.

For example, on examining the statute books of 44 States we find that in 13 States a jury is required, in 2 a jury is discretional with the judge, in 8 it is discretional with the alleged lunatic or his friends. The number of men composing the jury may be anywhere from 6 to 24, although 18 is the favorite number.

In 3 States commissioners are appointed for each case by the judge before whom the complaint is made. In one State two justices of the peace are required for a decision, and in 1 State three of these magisterial luminaries may take the matter in hand and pass unon it.

In 4 States a probate judge must give his opinion. In 14 States

the opinion of one physician must be obtained, either as an expert or as a member of a jury. In 9 States two physicians must join to pass upon the condition of the alleged lunatic. In 8 States only is there a regular and permanent commission in lunacy, who take charge of matters of this kind. In 1 State the friends and relatives of the patient may commit him.

Incidentally it may be noticed that the presence of the alleged lunatic in court is required, or may be dispensed with, according to the various regulations. The more advanced the statutes of a given State in other matters the less compulsory is the public exhibition of lunatics in court.

All the States provide for the care of lunatics at public expense, but in only six is there any provision for the licensing and inspection of private institutions for the same purpose.

It is not in the province of this paper to go into detail as to the peculiar method of obtaining proof for or against an alleged lunatic, for the use of the writ of habeas corpus, for the care and control of the patients pending the result of the regular inquisition for the humane and proper transfer of lunatics from their homes to an institution, or for the licensing and inspection of private institutions.

Suffice it to say that commensurate with the intelligence and knowledge of the law-makers the statutes all seem to be guarding against one infringement upon human liberty and menace to the peace and order of the community.

There seems to be a special effort in all cases to avoid the illegal commitment and incarceration of alleged lunatics. The danger which seems to be feared most is that some relative or friend, rival, opponent or enemy of any individual will undertake to conspire with those over whom he or she may have a certain amount of control, and thereby secure the incarceration of one who might be obnoxious from any cause, who might be somewht eccentric and peculiar, but still harmless and entitled to liberty and freedom.

After considerable reading and quite a wide acquaintance with those who are familiar with this subject, the writer feels that he is safe in saying that this peculiar crime, although showing itself in works of fiction and being the center of various popular traditions, is something that is almost entirely unheard of, that hardly an authentic case can be found anywhere.

Those designing and wicked husbands who wish to get rid of wealthy and annoying wives, those people who have been worried and tried by the eccentricities and nagging ways of odd and peculiar relatives and friends, have long ago abandoned the scheme of re-

sorting to false charges of insanity to rid themselves of the presence of these burdensome members of the immediate domestic circle.

It is true that the inmates of a retreat for the insane usually feel aggrieved and hurt (if they feel at all) and cherish more or less animosity against those who have assisted in their commitment, thus adopting the one means that makes for the recovery of their friends.

This is not unnatural, although in most cases when the patients recover their sanity they not only see things in a different light, but are very grateful to those who have done what was the best thing to do at the time.

The danger, then, of illegal commitment is much slighter than the general public imagine, so that if this was the only peril to be guarded against one would hardly feel like attacking the present system.

It matters but very little, as a guard against illegal commitment, whether the final tribunal be judge, jury, physician or lunacy commission unless some crime has been commited by the alleged lunatic and there is a motive for him or her to desire incarceration in a retreat, thus escaping the penalty of a crime committed with full understanding of its immorality, its defiance of the laws of the land and of its results to the community generally. In cases of this kind it is well known that the services of experts are generally called in with all the evils that are connected with such a course.

A second and greater danger to be avoided in the care of the insane is the premature discharge from surveillance and care of patients who have been in an unbalanced state of mind. Every alienist knows that periods of improvement take place in many cases only to be followed suddenly and without warning by relapses in which suicide, homicide, arson and other crimes are attempted and quite generally accomplished.

Just in these periods of betterment appears the zealous and tender-hearted wife, the fond husband or the doting mother to demand the release of the patient and his restoration to his former friends. Of course it goes without saying that this intention on the part of the friends is always imparted to the patient and not only puts him on his guard as to the suppression of every possible remnant of his own malady, but in securing his effort to second the friends and to make more reasonable the complaint to the court or to those whom he may meet.

The skill, cunning, intellectual ability and the knowledge of human nature which is displayed by patients under these circumstances is something beyond question.

Under these circumstances it is not at all to be wondered at that judge, jury and inexperienced physicians are often impelled to make mistakes, which are at once expensive to human life and quite often fatal to both patients and friends.

Scientific literature of the present day offers ample proof of these statements and the records of many a retreat need only to be scanned to afford food for thought on this subject. The second danger, then, as above stated, is the one to be avoided and to be met with reasonable and scientific care.

Having now briefly outlined the present condition of the laws on this subject, pointed out the dangers which are to be avoided and offered such proof of the soundness of this position as comes readily to hand, it now behooves the writer to offer a substitute.

First, then, all matters concerning the committal of an alleged lunatic and release of those who have been inmates of institutions for the custody and the care of people of unsound mind, should be referred to medical men who have had special instruction and long experience and who have special skill in this line of work.

They should be entirely familiar with the manifestations, symptoms and course of the various mental diseases which are met, both in and out of institutions for the care of lunatics. For the sake of clearness these scientific gentlemen may be called, for the purpose of this paper, "experts in lunacy."

The method of selecting these experts should be that which is the freest from the danger of the choice of incompetent people, and at present there seems to be no other way except that they be appointed by the Governor of the State, which appointment shall be subject to the approval of the Senate.

The statute should direct as to their attainments and there should be some definite examination to be passed by all those who apply for the position. Their previous experience in the care of insane people should not be less than ten years, and that should not be of a desultory character.

Their compensation should be ample and should be paid by the State. There should be a convenient number of these gentlemen in every State, so that dangerous patients should not be left at large for any length of time, waiting for the arrival and decision of these experts.

Incidentally, it would be well to change the law of all the States so that an alleged lunatic could be received at any institution for a brief period without commitment. This would make it possible to

take care of those who require attention when the services of an expert could not be obtained promptly.

To avoid all chances of mistake, the expert should visit each patient who had been committed by him at least three times within the first three months of his detention in an institution.

DISCUSSION.

S. H. TALCOTT, M.D.: I would like to state that Dr. Greenleaf has made a very interesting report. In a great many respects we are forced to believe that the care of sick persons should be referred to physicians only. In Norway they have a law which provides that a sick person may be sent to a hospital for the insane on the certificate of one physician—the family physician. I asked Dr. Lindboe, superintendent of the State Asylum for the Insane at Gaustead, Norway, if some sane people were not locked up on that plan. He said that he never knew of a case. He insisted that a family physician is not apt to send his patient to the State Asylum and then lose his own fees unless such a course is necessary.

G. J. JONES, M.D.: We have all had trouble in this matter. In the first place people are adverse to allowing their friends to go to a State hospital. They are not sent there soon enough. I think Dr. Talcott will agree with me in that respect. Public opinion is so strongly opposed to these hospitals that we cannot without difficulty send people there, and many of the hospitals are governed by political methods. This interferes with their successful management. I recall one case whom I could not have removed from home because of the objection of one member of the family. He went off one morning, secured a room at a hotel, locked the door of his room and killed himself. He could probably have been saved.

Another case was sent to an asylum, was released because the friends insisted upon it. She came home and in three months was as bad as ever. Such trifling should be stopped by some means or other.

Homœopathic Remedies in Diseases of the Nervous System.

By H. V. Halbert, M.D.

The diagnosis in nervous diseases affords a rare opportunity for the display of a technical knowledge of the anatomy of the nervous system. The treatment, however, is too frequently a matter of routine statements in which electricity, tonics and a change of climate are advised as palliating possibilities. No department in the realm of medicine has a record for more complete dodging so far as the application of remedies is concerned. This is in part due to the fact that such diseases are characterized by a severe pathology and often are not recognized until they are incurable. Generally they come to us when allopathy, osteopathy and Christian science have ignored and complicated the extreme pathological conditions. Again, we, ourselves, are guilty of attempting the heroic for fear that our milder remedies will not do, and more often the patients themselves ask for temporary relief which we dare not deny.

I fully believe that more harm is done by extreme medication and uncalled-for local remedial excess than the ravages of the average disease could possibly perform. I would not be understood to underestimate the value or the necessity of local treatments, electricity, massage, or even active drug action in many cases; yet if the law of treatment which we profess should not be applicable in diseases of the nervous system, it cannot consistently be used in the cure of other diseases. If the potency action does not avail in its influence upon the delicate and sensitive nerve-cell then it has no remedial effect at all and we would do well to eliminate it in all scientific applications.

In the treatment of diseases of the nervous system from the standpoint of remedy utility, we are confronted first by the pathological conditions of the disease we attempt to treat. If the tissue transformation affects parts adjacent to or involving an important part of the central or peripheral nervous structure, then our remedy applies to the functional perversion or the organic change in these

parts alone. In such cases no therapeutic consideration of the nervous system is required and therein many mistakes are avoided and many cures are performed. If, on the other hand, the pathological change or the physiological perversion pervades the nervous system directly a neurological diagnosis commands a prescription from a neurological standpoint.

The consideration then naturally resolves itself into two direct questions. First, is the perversion functional or degenerative? Second, is the lesion complete or partial?

In functional diseases of the nervous system the pathological status pertains mostly to the loss of cell protoplasm and the resultant symptoms which define the neurasthenic or the hysterical condition. When neurasthenia is considered I have found no remedy equal to or surpassing the usefulness of picric acid; that its physiological action tends to restore the lost cell protoplasm I have not the slightest doubt. This is recognized by the relief of mental irritability, by the corerction of all tremors, by the restoration of conjunctival reflex, by the removal of the occipital headache and the relief of persistent pains in the cervical and lumbosacral regions. These symptoms pertain to the irregular discharge of nerve force and the consequent excitation of axis-cylinder fibers. The loss of cell protoplasm permits this, for in its exhausted state the coordinate activity of the cell is taken away. Whether picric acid, physiologically, supplies the cell with more protoplasm (and I believe it does), or whether its dynamic action has a tendency to stimulate and strengthen the cell function, are questions still unsettled. I am willing to say, as a result of a considerable experience, that its action certainly overcomes the neurasthenic tendency.

The symptoms of this remedy in brief may be summarized as follows: Mental prostration with indifference, loss of conjunctival reflex, occipital pain with cervical, lumbar and sacral irritation, fine vibratory tremors, with heaviness and weakness of the limbs, sexual and bladder disturbances, and with all a general lassitude, which permits the patient to believe he suffers with a multitudinous train of symptoms, real or fancied.

When the nervous disturbance partakes more of the hysterical features, that is to say when the inhibitory control of the nerve cell is taken away and spasms and contractions occur, then I believe the action of picric acid should be supplemented by a remedy of a deeper action, and hence I prefer in such cases the combination of picric acid and zinc—zincum picricum, and for all practical purposes the third decimal potency is sufficiently strong. The symptoms here

define a more profound cerebral depression with conditions of hyperasthesia, anesthesia, neuralgia and the spasms simulative of hysteroepilepsy.

Again, when anemia and exhaustion of the nervous system are paramount symptoms the addition of iron to picric acid, ferrum picricum is of inestimable value. It represents an extreme cell exhaustion as a result entirely of neurasthenic conditions of long standing.

The use of arsenic in diseases of the nervous system relates more particularly to a general physical exhaustion from long-continued adynamic conditions. In such cases digestive disorders, no doubt, are the fundamental perversions. Other symptoms than these, to my mind, do not call for arsenic. Its long-continued employment by the old school has been partly for tonic effect and rarely with lasting results.

The same objection may be made to strychnia, cannabis indica and other stereotyped remedies which give temporizing effects of a stimulative character. Valerian is a remedy of considerable value in functional disorders and does not have any cumulative or stimulative effect with bad reactions. I prefer it in combination with zinc, valerinate of zinc, when the neurasthenic exhaustion is quite general and the patient is of decided nervous temperament.

Phosphorus is a long-lasting remedy and does not require frequent repetition. It is useful in functional involvement of the nervous system when blood perversions exist. Its influence upon osseous tissue is due to the fact that it restores protoplasm to the spinal cells through blood rejuvenation. Tissue necrosis is a common factor when this remedy is indicated.

Camphor is a remedy too frequently overlooked. Its action on the cerebrospinal system should not be underestimated. Its use is more frequently indicated when spastic or convulsive symptoms predominate, and hence in hysterical and epileptoid tendencies it has a more telling effect. It has further a decided depressing action, and thus we find its clinical callings relate to a great depression of the general nervous system; but this is always associated with irritatations of mucous surfaces, as observed in enteritis and kindred affections, acute and chronic. In insomnia it is one of my favorite remedies. I have in mind a remarkable success in the case of a patient suffering with insomnia when the only indicative symptoms were the coldness of the limbs and cramps in the same at night. Subsultus and extreme restlessness almost always call for this remedy.

Another remedy which we frequently overlook is hypericum. Not that it is so often indicated, but when it is the symptoms are pro-

nounced. I refer to the extreme spinal sensitiveness to touch or even to the thought of contact. This is by no means necessarily associated with wounds or contusions, though it is beneficial when such a history prevails. So many of our spinal disorders are antedated by traumatism that it should always be kept in mind in chronic cases of spinal irritation. Excessive pain and soreness are indications for its use.

Stannum, too, is another remedy we frequently forget. Its usefulness in catarrhal inflammations of the respiratory tract is supplemented by its favorable action in old cases of neurasthenia. The neuralgic headaches which bother us so much in all nervous cases, and particularly those of the "coming and going" kind yield very nicely to this remedy when given for sufficient length of time.

In all of the foregoing remarks I have tried to give my preference in remedies for functional nervous diseases and at the same time refer to some not so frequently thought of. I believe we always gain the best of help when a physician gives a symposium of his daily experience and at the same time calls our attention to some remedies not so often employed. In that we add to our experience and help one another along in our professional struggle.

And now I must speak of the remedies we apply to the graver forms of nervous diseases—the degenerative conditions. Here we find our greatest trouble, for the pathological feature pertains to a destruction of tissue and this we cannot hope to repair. Myelitis we generally fail to check, but sclerosis we may correct. Here I must admit the experience of the past has only been confirmed, for the iodides are still our sheet anchors. The iodide of arsenic, potassium, strontium, lime, baryta and carcarea are the principal ones. Their use, however, I am convinced should be in accordance with Homœopathic principles and not in crude form.

Argentum nit., freshly prepared, I believe a safer and surer remedy in disseminated sclerosis than the iodides. Where specific causes complicate I doubt if any known remedy excels the chloride of gold, continuously and persistently given in the second decimal trituration.

In my premise for discussion of this subject I stated the second diagnostic requirement was whether the lesion was complete or incomplete. The accuracy of this is self-evident, for a complete lesion will tolerate little of our attention. The cord literally cut into by a transverse myelitis, or transversed by a progressive sclerosis, or compressed and destroyed by an organic growth should have slight claims upon our remedies.

An incomplete lesion is always within the possibility of a cure. The pathological cause removed, the totality of the true symptoms properly observed and the similimum of some remedy should come to our rescue. The trouble is we are too faint-hearted and fear our remedy utility before we give it a thorough chance. I have not touched the subject of remedies for mental conditions, nor even mentioned the graver neuroses; sufficient cannot be said of those diseases and their treatment in one short paper. That, however, the Homœopathic remedy, judiciously used in conjunction with all necessary adjuvants, will perform a greater proportion of cures than any practice of heroic medication I have not the slightest doubt. Time will yet prove that the law of similars, faithfully adhered to, will receive its greatest exemplification in the neurological department of medicine.

REPORT

OF THE

SECTION IN OBSTETRICS.

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Antiquity of Obstetrics.

BY T. G. COMSTOCK, M.D.

In the Holy Bible, in the third chapter of Genesis, is an account of the transgressions of Adam and Eve while in the garden of Eden, and following this account is the primeval curse to mankind. In the sixteenth verse it reads as follows: "And unto the woman he (the Lord God) said: "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children." The first case of obstetrics mentioned in the Bible is recorded in Genesis, chapter twenty-fifth, of the labor of Rebekah, wife of Isaac, who bore twins. The second case, also found in Genesis, chapter thirty-fifth, describes the confinement of Rachel, one of Jacob's wives, is as follows: "And Rachel travailed and was in hard labor, and it came to pass, when she was in hard labor, that the midwife said unto her, Fear not; thou shalt have this son also." The scripture informs us that Rachel died, whether immediately after the delivery of the child or later it does not state; but it says in her last moments, just as she was about

to expire, she named her son. From this account we notice that the midwife announced to the anxious mother that she was about to give birth to a son. The statement is made and repeated that the labor was a *hard* one, and from this account and the fact that the midwife foretold to Rachel that she would bare a son, we conclude that the child was a breech presentation, and this gives us the explanation why the midwife at that early age of the world was enabled to make a correct diagnosis of a fetal presentation. I have quoted this case from the scriptures because Rachel was attended by a midwife, and to emphasize the fact that the first practitioners who were specialists in medicine were obstetricians, and they were women.

Specialism in medicine has become an important department of medical practise, and the practise is now so divided that the "old family doctor" finds himself neglected and almost without patients; but we have the authority of the scriptures that midwifery was the first branch of the healing art ever practised, and accordingly modern accoucheurs may claim with pride that they are the descendants of the earliest specialists. As early as 469 years before Christ, so noted a woman as Phaenarety, the mother of Socrates, was a practising midwife, and the people of that early age were so tenacious in this matter that they insisted that none but females should be allowed to attend women in labor. This state of things continued in vogue, until about three centuries ago. Even at so recent a date as 1522, in the city of Hamburg, Dr. Wertt disguised himself in a woman's dress, and clandestinely entered into an apartment where a woman was in labor, to study and learn the course of a natural birth, but he was discovered, and for his laudable enthusiasm for knowledge he was burned alive. What a remarkable evolution in midwifery practise has come to pass in 300 years! The necessity for the practitioner of midwifery needs no argument;—it is a broad principle in medicine, that "the physician exists only for the good of his patient,"—as long as mankind lives upon this earth, so long will the accoucheur as a specialist be needed. The skill and dignity requisite for an obstetrician is, in the first place, based upon his knowledge of the science; second, in order to be skilled and successful in the art he must have had experience gained from clinical practise, and the necessity for these qualities in an obstetrist appeals to our interest and deepest sympathies. The modern accoucheur realizes that it is his duty to shorten the period and pains of a tedious labor as far as it comports with safety. This can be done through the exercise of skill, and by the use of rational auxiliaries, such as chloroform and the forceps.

Chloroform has been used by our profession for 52 years, since its

introduction in Edinburgh in 1847 by Prof. Simpson. When not contraindicated it soothes and lessens the pains of a protracted labor, and is now recognized as capable of doing great good to the mother when given after the completion of the first stage of labor. Exceptionally, it may be resorted to in the first stage in case of obstinate rigidity of the os uteri that has resisted all other resources.

Forceps—In lingering labors the use of the forceps to deliver the mother quickly is now universally acknowledged as the correct practise A half century ago in British practise, the forceps were used not more frequently than once in 249 labors; in France once in 240, and in Germany once in 106 cases. The mortality after the use of forceps at that date among the French and Germans was about 1 in 34, while in England it was greater. We can only account for this mortality in two ways: First, the forceps were regarded with a degree of dread akin to horror, and this fear was not confined to the lying-in-woman, and her nearest relations and friends, but it even permeated the practitioner himself, so that the forceps were not used until the patient was exhausted and in an extreme condition from the delay of a lingering labor lasting sometimes for several days. Mark the contrast in the practise of to-day. In the United States there are now used whenever indicated—the rule being whenever from delay in the delivery the mother or child is in danger and this danger will cease when the labor is ended, the forceps should be applied. Statistics gathered from expert accoucheurs show that they are employed in their country in large cities once in twenty-five cases, and by others as frequently as once in eight labors with a mortality almost nil. Such are some of the results of the evolution in the practise of midwifery at the present day. Lacerations of the perineum occurring in labor as likewise lacerations of the cervix are now (with few exceptions) repaired before the practitioner leaves the lying-in room.

Ectopic Pregnancy, tubal pregnancy, extra-uterine fœtations.—Ectopic gestation is a very important subject upon which much attention has been given the past year. The life of a patient so unfortunate as to have an extra-uterine fœtation, depends no little upon the ability of her medical advisor to early recognize the abnormal pregnancy. Its proper treatment is surgical and the plan formerly practised to destroy the life of the fetus by powerful electrical currents passed through the sac, or by toxic medicaments, such as morphine and strychnine injected into the sac, has been entirely abandoned. Now with absolute asepsis an abdominal incision is to be made and the removal of the entire products effected. It is true that we some-

times encounter shock, but this may be treated by injections of normal salt solution, strychnine or ether. The incision is to be closed, and the case treated same as for an uncomplicated case of ovariotomy. With our modern advances we can congratulate ourselves that the operation of craniotomy—so frequently resorted to forty years ago—is rarely necessary. In its stead the Cæsarian operation, or symphysiotomy is now adopted. Symphysiotomy, an operation first proposed in Paris by Sigault more than 100 years ago, but long in disuse, has been revived greatly improved and from clinical reports is usually successful.

Post-partum hemorrhage and the therapeutic value of salt solution.—When the loss of blood in post-partum or other hemorrhage has been so great as to exsanguinate the lying-in woman, and she is reduced to a moribund condition, as an auxiliary to our China, the use of normal salt solutions is an important measure. It may be given as an injection into the rectum, hot; also, as an intravenous injection of a one per cent. solution, in most serious cases where death seems imminent and no time is to be lost. A pint or more may be injected. French medical journals for the past two years, and British medical journals give cases of recoveries from this practise. In the uremic coma of Bright's disease and diabetes, and puerperal sepsis, the salt solution has proved to be a valuable therapeutic measure.

Walcher posture in labor.—This maneuver, known as Walcher's position, is worthy of attention. It is an old procedure first advised in 1738 by an old Italian physician in Venice—long forgotten by the profession—and rediscovered in 1889 by Dr. Walcher, of Stuttgart. The lying-in woman is placed in the lithotomy position, the buttocks resting just at the edge of the bed, and the legs allowed to hang freely pendant, not touching the floor. In this position it is found that the head can be delivered by the forceps after failures to extract with the same instrument when the woman was in other positions. The object of this posture is to increase the length of the conjugate, and this is found actually to occur in practice. When there is a lessening of the anteroposterior diameter of the pelvis in any tedious labor, this method may be tried. But it is necessary to make changes of the position when the head is above, or below the superior strait. The sequencies of this position are as follows: head at the brim, legs down; at the outlet, legs up; when head is about to pass perineum, legs pendant.

Pernicious vomiting of pregnancy.—The treatment of this serious condition—which is not infrequently a complicated

hysterical neurosis—is now greatly improved, by the administration of the proper Homœopathic remedies. We order the patient to have perfect rest with nourishment properly selected, and administer the Homœopathic remedies as indicated. Only in very exceptional instances is it necessary to resort to the induction of premature labor.

Eclampsia in labor.—During the past year we have not added much to our knowledge of this most grave affection of pregnancy. We know that it is a toxicity of the blood, but that it is wholly caused by Bright's disease, as was formerly believed, has not been settled. Fatal cases occur where the post-mortem examination shows no lesion of the kidney. We all know that in eclampsia there is some incomplete elimination of the effete matters within the circulation; and with the presence of the fetus in utero, and a woman exposed during pregnancy to a constant nervous tension, we have a condition of auto-intoxication from a defective excretion of toxins, not confined to the kidney, but all the emunctory organs seem to be at fault. This is a subject worthy of further study.

Puerperal fever, abolishing the nomenclature.—"Puerperal fever" has been seriously opposed by some who stand high in the profession, and in some text books even the name now is not to be found. Puerperal fever is a fever in a puerpera, usually heterogenerous and the result of infection from without, but exceptionally it is autogenetic, arising from processes inherent to the patient; so that we may have endosepis or autosepsis, as well as exesepsis which is heterogenetic. Volumes have been written upon this subject, yet we think our definition cannot be gainsaid, and therefore we insist upon retaining the term "puerperal fever." During the past year we have seen many articles written upon toxemia, puerperal fever and the coma of uremic intoxication, for which normal-saline solution as an injection has been recommended. This therapeutic plan is harmless, but it will be found in practise worthy of further study. Finally, the practise of midwifery has been much simplified, the modern obstetrist having recognized one principle which always governs him in the conduct of a labor; and this is that the parturient act—expulsion and delivery of the child—is one that is strictly physiological, and that a normal labor should be allowed to take its course and not be interfered with unless for a sufficient cause. At the present day, the rule in the conduct of a labor is: (1.) Absolute asepsis. (2) Careful diagnosis of the position. (3.) Watching expectantly the progress of the labor. (4.) Non-interference except for cause.

With careful diet, improved hygiene, asepsis and Homœopathic therapeutics, the mortality is almost nil.

I cannot close these introductory remarks without reminding you that the seat of one of our members who was always present at the meetings of this bureau is now vacant. He was a peer among us, eminent in the profession, and one whose speeches, discussions and advice gave luster to our deliberations. His presence, ever genial, was to us a response of good cheer. He gave his whole life to his profession—even while taking a rest from his work his vacation was devoted to his profession and to the investigation of its improvements and accomplishments. Indeed, his whole life was always in his work! I say all this with truth, as I knew him intimately. You will all recognize to whom I refer. Dr. Reuben Ludlam has passed away,—and he has gone with such renowned members of our Institute as Drs. John F. Grey, D. S. Smith, A. E. Small, C. Hering, C. B. Matthews, Walter Williamson, Charles Neidhard, W. S. Helmuth, John T. Temple, W. H. Holcombe, J. C. Cummings, G. S. Walker, his especial friend, Dr. Teste of Paris, and many others. Now,

> "Cold are those lips who spoke his early praise,
> And hushed the voices of his morning days."

And he died while at his professional work—stricken at the operating table in his own hospital. And while shedding tears for our late lamented friend, we may now say:

> "The mossy marbles rest
> On lips he has pressed
> In their bloom;
> And the names he loved to hear
> Have been carved for many a year
> On the tomb."

Two Cases of Cæsarian Section.

By Theodore J. Gramm, M.D.

The interest that from time immemorial has existed in the Cæsarian section, the decided infrequency with which this operation is required in America, and the happy results now attending this operation that for centuries has been recognized as the greatest of all surgical operations, suggest the desirability of accurately recording all such cases. It was my lot to encounter the somewhat remarkable experience of meeting with two cases demanding this operation within two weeks, in the early part of January of the present year. The fact that both children were saved, and that both mothers made recoveries which were delightfully free from complications, adds interest to the cases. My intention is to submit a report of these two patients with but few comments at the present time, though desiring during the course of the narrative to emphasize some points which are believed to be of importance; for it will be observed that there are a number of circumstances, especially those existing at the time of the operation, which merit attention. The discussion of these is invited, as also of the newer methods of treatment which were pursued.

Case I.—Patient of Dr. E. S. Sharpless. Is 20 years of age; a native of this country; her mother is a healthy woman, still living; her father died at the age of 22 of pulmonary phthisis; has no brothers or sisters; the patient was married two years ago.

At the age of 4 years the patient sustained a fracture of the right fibula from a fall down stairs. Shortly thereafter she became affected by disease of the spine, and, in consequence, had a number of abscesses at intervals, which discharged about the pelvis and buttocks, and necessitated her treatment in a hospital for sixteen weeks. As a remains of the tubercular abscesses from the spinal disease she now has ten scars about the groin and on the buttocks, three of which are in the region of the sacrum. There is slight lateral curviture of the spine, and, in addition, there is kyphosis, the hump involving the lower lumbar vertebræ, and also affecting the upper part of the sacrum.

The measurements of this patient are of some interest. Her height is only 55 inches. Her height to the crest of the ilium is 34½ inches. From the crest of the ilium to the vertex she measures 20½ inches. From this it will be seen that the deficiency in her stature is due to the diminished length of the body from the ilium upwards.

The pelvic measurements are as follows: External, Sp. il., 9¾ inches; cr. il., 10½ inches; external conjugate, 6½ inches; estimated conjugata vera, 2½ inches. Internal measurements: Oblique conjugate, 3 inches; from this the true conjugate is estimated to be 2½ inches. The symphysis is fully of normal width. On introducing the finger into the vagina it is easily possible to follow the iliopectineal line around the pelvis posteriorly to the sacrum. Here this line is not an uninterrupted arc; but where the sacrum should complete the curve there is an indentation whereby the iliac bones are brought more nearly together posteriorly. The oblique conjugate diameter is easily measured.

Shortly after marriage this patient became pregnant, and Dr. Sharpless was engaged to attend her. On January 16, 1898, at 3 P.M., she was taken with labor-pains, and suffered intensely. During the evening the doctor tried to deliver her by means of the forceps, but did not succeed, it being impossible to have the head engage in the superior strait. About midnight I was called to the case, and on examination found that the child was dead. I then made but one trial to deliver her, with only slight traction of the forceps, and, failing, proceeded at once to craniotomy. The head was steadied on the superior strait and perforated, and the cranial contents removed. With the cranioclast, the squamous bones of the head were then cut away, so that only the base of the skull, with the lower jaw attached, remained as the representative of the fetal head. Even thus considerably diminished, it was only possible with the greatest difficulty to make the head engage and pass through the superior strait. The body of the child could only be made to engage after the pendulous abdomen containing the uterus and the fœtus was lifted high up towards the sternum, at the same time making considerable pressure from above. The fetus was finally removed, but in its extraction it suffered a fracture of both clavicles, one humerus, and several ribs. The patient likewise sustained a complete laceration of the perineum. One of the main difficulties experienced in the delivery of the child was the fact that it could not be made to engage in the superior strait on account of the angle it presented to the plane of the superior strait; for the uterus and the

child were practically outside of the normal line of even the pregnant body, and were contained within the greatly pendulous abdomen. There was not sufficient space between the symphysis and the sternum for the child to occupy during the endeavor to make it engage in the superior strait.

After some weeks of illness the patient recovered from her ordeal, but during that time she was affected by pains, apparently of a neuralgic character, down the right leg. Some edema was also present, which would lead to the belief that the patient suffered some infection in the nature of phlebitis; and yet she formerly suffered similar pains, and again had them after her section—that is, at a time when we were moderately certain that there was no infection.

Some time after this the patient again became pregnant. Her last menstrual period occurred on April 6, 1898. I first knew of her pregnancy in December of the same year, and, after taking the pelvic measurements, concluded that the child at this time was already too large to pass with safety through the pelvis—that is, either with safety to itself or to the mother—and a craniotomy now offered only the same chances of success as before, and would surely be attended by considerable risk to the mother. I therefore determined to await the end of pregnancy, and then to take the much-diminished risk of the Cæsarian section. The estimated time of labor was January 11, 1899. I resolved to perform the section some days prior to that date, and January 5th was fixed upon.

Cæsarian Section.—The operation was performed at the home of the patient. The house, while small, was a new one, and all aseptic details were possible.

After the patient had been placed on the operating-table, the pendulus abdomen was raised up somewhat by my first assistant and an incision was made in the median line, about seven inches long, but did not extend above the umbilicus. The abdominal walls were found to be most wonderfully thin, so that the peritoneal cavity was reached in but a few seconds. The uterus presented with its left horn in the median line. I had previously determined by auscultation that the child lay in the right sacro-anterior position. At the same time I had endeavored to locate the placental site, but the placental sounds were not particularly distinguishable on any part of the anterior portion of the uterus, so that I was led to believe that it might be situated posteriorly. When the abdomen was opened I again tried to locate the placental site by the slight elevation and the area of increased vascularity and softness which the text-books say mark the place. No such appearance was discernible, and therefore the

uterine incision was made in the heretofore classical location. The incision was deepened first toward the upper part of the uterus, and here a stream of dark blood greeted my scalpel, which was astonishing because of its quantity. I concluded at once that I had to deal with a placenta prævia Cæsariana, and at the same time thought that the lower margin of the placenta had been cut; for I now believed that since, at my auscultatory examination, no evidence of the placenta could be found anteriorly, that the placenta must be attached in the fundus uteri. I therefore at once deepened the incision more towards its lower portion, and here encountered a flow of blood that was greater, if possible, than the former one. From this I now felt certain that I had to deal with a placenta presenting directly under the line of incision, and also that a stage of the operation had been reached at which some expedition was necessary. Therefore, these two violently bleeding points in the line of the incision were rapidly united with the scalpel; the right hand was inserted between the uterine walls and the placenta towards the left side of the uterus, and here the blue amniotic sac was distinctly seen, bulging with its contained amniotic fluid. The membranes were nicked with the knife, and the hand inserted in order to grasp the child, at the same time giving exit to the amniotic fluid. From this description it will be seen that the placenta was situated in a place which would hardly be regarded as probable, judging from the results obtained at the preliminary examination made for this purpose; that is to say, it was attached somewhat to the right on the anterior wall of the uterus, and the child virtually lay on the placenta, as will become apparent on consulting the photographs. The feet of the child were sought for and readily found, and the child was delivered by the feet. The cord was clamped in two places and cut, and the child, a male, handed to Dr. Sharpless, who gave it attention. It did not cry at once, and was rather pale, but was resuscitated. Just six minutes had been occupied by the operation thus far.

The uterus was now lifted out of the abdominal cavity, or we might say that the abdominal walls were slipped back of the uterus, and a pad was placed there to protect the peritoneal cavity from becoming soiled. My first assistant, Dr. Charles Becker, who until now had closely approximated the abdominal walls to the uterus, then grasped the uterine arteries on each side of the uterus and made compression there, in order in a measure to control hemorrhage. No elastic band was used for this purpose, as is done by some operators. The placenta was delivered without any difficulty whatever. From now on the hemorrhage was remarkably scanty, for the

uterine walls contracted at once. I cannot resist pausing for a moment to comment upon the wonderfully interesting spectacle presented by the uterine walls as they contracted and retracted, and evidently rearranged their fibers, so that the walls, which until now had had the thickness of only about 1 centimeter (⅜ inch), palpably thickened, and in a very short time the uterine walls were about 5 centimeters (2 inches) in thickness.

Ten deep and the same number of superficial silk sutures were inserted to close the uterine wound, after a strip of iodoform gauze had been passed through the uterine cavity. It then became manifest that we had been quite successful in preventing the peritoneal cavity from becoming soiled by any of the discharges; only one clot was found anterior to the uterus, at the lower angle of the abdominal incision. This was removed and the abdominal wound closed. It was my original intention to close the abdominal wound with buried silver-wire sutures, but this was found to be impossible on account of the remarkable thinness of the abdominal walls. Therefore the peritoneum was closed with a continuous catgut suture, and then the fascia and the skin surface were brought together with fine silver wire. The usual abdominal dressing was applied, and the patient returned to bed in a most satisfactory condition.

It should have been remarked above that, at the urgent request of the patient and of her husband, I consented to remove the ovaries at the operation, in order to prevent the recurrence of pregnancy; and this was accordingly done after the uterine suture was completed.

After the operation the patient did not vomit at all, and became conscious in a very short time. During the first two days she suffered from frequent afterpains and cramps in the thighs, which were admirably controlled by the administration of viburnum, gtt. j tablets. For the first few days the temperature reached 100° F. in the evening, but was normal during the remainder of the day. This was the only rise, excepting on the fifth day, when 102° F. was reached. At the same time the right breast was somewhat more than usually congested; but this condition disappeared after massage, and the temperature likewise fell at once. The bowels were moved on the third day. The patient was allowed to sit up in the third week, having gained in weight; and, as her friends remarked, she looked better than before the operation.

The child was applied to the breast forty-four hours after the operation, and the nurse's chart says there was plenty of milk. The measurements of the child's head taken five hours after the operation

showed that in every diameter it was of the size of the average fetal head at term.

It might have been mentioned above that, while the abdominal incision at the time of the operation was seven inches long, it had shrunk to such an extent by the eleventh day, when the sutures were removed, that it only measured two and a half inches. This was due to the fact that the abdominal walls having been so enormously stretched by the pendulous abdomen and incised while in that condition; the tissues had had time to so far retract by the time the sutures were removed that, unless these circumstances were known, it might be doubted that a full-grown child at term had ever passed through an incision so small as the scar on the abdomen would indicate it to have been.

CASE II.—Patient of Dr. Charles W. Karsner. Aged 32 years; primigravida; last menstrual period May 8, 1898; false labor pains began during the night of January 17, 1899, and continued with long intermissions. At 4 P.M. on the following day Dr. Karsner visited her, and found the pains far apart. At about 8 P.M. on January 18th the amniotic fluid was discharged. The patient residing out of the city, Dr. Karsner reached her some hours later in the evening, and on examination found that a tumor obstructed the progress of the labor. He tried by pressure to displace it, the patient having been placed in the knee-chest position, but without avail. A messenger was sent for me, but because of the distance from the city I did not reach the patient until 1.30 A.M. on January 19, 1899.

I was told that the patient always menstruated regularly, for five days at a time, and had not suffered from leucorrhea; had always been seriously affected with constipation, so that cathartics were constantly required. Patient suffered from dyspareunia from the first.

On vaginal examination I found that a large tumor completely filled the pelvis, so that the os was only found with the greatest difficulty immediately behind and above the symphysis pubis. Some dilatation had taken place, and the head of the child presented in the right occipito-anterior position. Between the tumor and the symphysis only one finger could be inserted. No more accurate measurements than this were possible at this time. Although Dr. Karsner had already attempted to displace the tumor with the patient in the knee-chest position and making pressure upwards, I determined to make the attempt, but without success. The patient was also placed in the exaggerated Trendelenburg posture on an inverted chair, and strong pressure was made in the effort to displace the tumor, but with no success whatever.

The question of craniotomy and the Cæsarian section was carefully considered. The fetal heart having been heard still beating with normal regularity and vigor, and the patient being considerably weakened, nervous, and somewhat hysterical in consequence of her long, ineffectual attempts at delivery, we concluded that the best chance for both mother and child pointed to the Cæsarian section. Fortunately, Dr. Karsner had made no unnecessary vaginal examinations and no attempt at artificial delivery, so that we could be moderately certain that the vagina had not suffered much if any bruising; and, also, aseptic conditions had surrounded the patient up to this time. The consent of those interested having been obtained, the Cæsarian section was at once prepared for, the nurse in charge getting the patient ready for the operation, while I returned to the city for my instruments and for my assistants.

After having made the most careful preparations for an aseptic operation, the Cæsarian section was begun at 11.15 A.M., and completed at 11.45 A.M., January 19, 1899. Dr. H. A. Lacy administered the ether, while Dr. Karsner watched the condition of the patient. Dr. Charles Becker was my first assistant, while my nurse performed the duties of second assistant. An incision was rapidly made in the median line. When the peritoneal cavity was reached a small quantity of serum exuded. The uterus presented at once, and its anterior surface was incised in the median line. A very profuse hemorrhage occurred immediately, for, as in the case above related, the incision opened the uterus at the placental insertion. In this instance the placenta was implanted on the right side of the anterior wall of the uterus, but about one inch of the placenta extended to the left of the median line. Not a moment was lost, but the hand was at once passed through the placenta and the membranes and the child grasped by its extremities, which were found, as expected, in the upper part of the uterus, and a male child was delivered, and cried lustily. The cord was clamped in two places and severed between, and the child handed to the obstetric nurse, who had no further trouble in its resuscitation. The placenta, which had been loosened to a great extent by these manipulations, was easily removed, a few small clots were taken from the uterine cavity, and the closure of the uterine walls begun and effected by fifteen medium-sized sutures of silk.

I would remark, in passing, that, had there been any delay in the extraction of the child after the uterine walls were incised, considerable impediment to its safe delivery would have been experienced; for the uterine walls were closely applied to the child, the amniotic

fluid having been discharged some hours before, and thus, had any material time been given to the walls to contract any more after they were incised, the child could only have been delivered with difficulty, as has occurred on a number of former occasions, where from this cause the child was lost. Another observation made at the time was that, after the uterus was emptied, the walls of the uterus were very much slower in contracting than in the former case related, and therefore the loss of blood was greater than on that occasion. I believe that tardy contraction of the uterine walls in this case was caused by the fact that the uterine muscles were tired out by the futile attempts to empty the uterus during the hours of ineffectual labor. Although they were in a condition approaching tetanic rigidity at first, yet after the uterus was emptied they did not contract as rapidly as in the former case.

The uterine wound having been closed, an attempt was made to examine the tumor which had occasioned the operation. This was found to involve the right ovary and to be adherent deep in the pelvis posterior to the uterus, and to fill the cavity completely. On inquiry at this moment as to the condition of the patient, my anesthetist informed me that while it was good, "yet it might be better." On this account I determined, with Dr. Karsner's concurrence, not to take any chances at present of removing the tumor, but to defer that until another occasion. I am very well aware that on theoretical grounds it might have been well to have removed the tumor at this time, but I am perfectly satisfied with the decision made, for the patient experienced a much better recovery than would probably have taken place had she been subjected to the increased time and the attending shock of another operation. We must also take into account that many more serious adhesions might have been encountered than were otherwise expected, and thus the termination of the operation delayed; in addition, the enlarged uterus seriously interfered with gaining any assistance from the sense of sight deep down in the pelvis, had this become necessary for any reason. My whole thought during the operation was to terminate it as soon as the exigencies of the case would with safety permit. As it was, the patient sustained little shock, and recovered from the anesthetic with very little vomiting. The abdominal wound was closed with catgut for the peritoneum, and silkworm gut for the fascial, connective tissue and skin layers.

In regard to the after treatment of this patient, there is only to be said that on the night of the second day post-operationem, the distention of the abdomen was extreme. The tympanites affected

mainly the upper part of the abdomen, that is to say, that part of the abdomen where the walls had become extremely distended by the child having been mainly carried there, the tumor not having allowed the child to be carried in its normal place in the lower abdomen. The partial occlusion of the lower bowel caused by the tumor in the pelvis was also without doubt a material factor in causing the tympanites. The latter was relieved by high enemata and cathartics. The temperature only reached 100.6° F. on the evening of the day of the operation, and did not rise again. The case may, therefore, be regarded as having made an aseptic recovery.

The operation forthe removal of the ovarian tumor, which had occasioned the Cæsarian section just recorded was performed at 3 P.M. on May 4, 1899, at the home of the patient. The abdomen was incised about a quarter of an inch to the right of the scar of the former operation, and exposed the ovarian tumor. No adhesions were encountered at the site of the former incision, the peritoneum being found quite free and the scar very satisfactory. The abdominal viscera were in a normal condition. My left hand was introduced in the abdomen and pelvis, and liberated the quite general adherence of the tumor to the pelvic walls. The apex of the tumor was embedded in the extreme lower part of the pelvis, and even after being loosened there was some momentary difficulty in raising the tumor out of the pelvis. I determined to remove this tumor without rupturing it, if possible, for I entertained some thought of its being of malignant character. This thought was suggested on account of the lower part of the tumor, when examined per vaginam, being distinctly nodular to touch. The presence of serum in the peritoneal cavity at the first operation and the appearance of the patient also suggested malignancy. The tumor was therefore removed unbroken, and it was found that a satisfactory pedicle could be obtained by the ligamentum latum dextrum, and here the ligature was applied. The patient lost very little blood.

The left ovary contained four cystic follicles, and was atrophic. These cysts were punctured; but in view of the fact that the previous pregnancy must have originated from an ovum derived from this ovary, and for the further reason that future pregnancy was desired, this ovary, after the conservative treatment mentioned, was allowed to remain. The patient recovered from this operation without incident.

The tumor removed is heart-shaped, the apex being located deep in the pelvis, and its measurements are as follows: vertical diameter, 5½ inches; anteroposterior, 4½ inches; horizontal, 5 inches. It is

of the dermoid variety, containing large quantities of cholesterine, connective-tissue masses, and hair.

The following comments are suggested for discussion:

1. The preliminary obstetric examination should be made in the case of every pregnant woman, as I have recently tried to emphasize.[1]

2. Pelvic measurements should be made of every pregnant woman, and especially of every deformed pregnant woman.

3. If an obstruction to labor be encountered, the case should be examined with exactness, to determine its character, so that no inapplicable measures be attempted which would only injure the patient and make her less amenable to required surgical aid.

4. In the second pregnancy of the first case, Cæsarian section was less hazardous than craniotomy; hence craniotomy was not permissible, especially in the presence of a living child.

5. The first patient sustained less shock and made a more rapid recovery than is sometimes seen after a so-called normal labor.

6. Symphysiotomy was not applicable in the first case, in view of the great probability of anchylosis of the sacro-iliac synchondroses.

7. Cæsarian section is safer and easier when performed some days before labor. There is no need of waiting for the onset of labor-pains, since the uterus, when emptied, contracts satisfactorily even when labor has not yet begun at the time of the operation.

8. After the amniotic fluid is discharged and labor-pains have continued for some time, the Cæsarian section is distinctly more difficult and hazardous than before.

9. Placenta prævia Cæsariana does not present insurmountable difficulties, provided the operation be quickly performed.

10. The greatly improved results of the Cæsarian section rest mainly upon asepsis and the suturing of the uterine wound.

11. Under the conditions existing in the second case, complicated by the ovarian tumor, the removal of the latter at a second operation was distinctly the safer procedure, as the results demonstrated.

Discussion.

J. H. McClelland, M.D.: I think it is hardly fair to the paper or to the Institute to discuss the subject in the abstract, so I will just add a word. I have not had very much experience in the matter of Cæsarian section. I can only count two cases. Singularly enough I had been waiting for twenty-six years to do a Cæsarian section, and then within two months I did the second. The first case was a successful one, performed on account of deform-

[1] *Hom. Jour. Obs., Gyn. and Ped.*, March, 1899.

ity; the woman was practically a dwarf in the pelvic region—that is, there was arrest of development. I operated before labor set in. Now, in that case I simply opened the abdomen and immediately the uterus. The child was living and was delivered within ten minutes of the first incision. The case progressed favorably to recovery. The second case was quite different, had been in labor for forty-eight hours (a bad beginning) and when she was brought in for operation her temperature was 103. I found that the urine was suppressed, and altogether the case was most unpromising. She was unconscious at the time from uremic poisoning, and although the child was delivered promptly, it had been dead for some little time—the woman never recovered consciousness. She lived until the next day. This was a case of extensive involvement of the cervix with carcinoma, and I removed the uterus entire.

I do not know just what the points were that were brought out in the paper, but I am in favor of the early operation. I am in favor of saving the uterus, if it can be done. I think that craniotomy is not be tolerated in this day and that the Cæsarian section should be performed in preference, in almost any case. I think it can be done with a fair degree of safey, and is much to be preferred to the destruction of the child.

B. G. Clark, M.D.: The last case referred to by the essayist reminds me of a case that occurred in my practise six months ago, which I will relate for our instruction and help. The patient was a primipara, and had gone on to full term without any difficulty, without any bad symptoms whatever, passed the full term to nearly ten months, as far as we could calculate, enjoying good health, taking her walks and attending to the work of the house without any trouble. When called upon to make the examination, owing to the hysterical condition of the woman, I was unable to make a thorough examination, but in our scuffle on chasing the woman away across the bed I ruptured the membranes, which were bulging, and a very peculiar and dark-colored fluid came. The pains immediately ceased, and didn't recur for two and a half hours. When they did recur I was determined to make an examination, and was forced to give her chloroform. I found a large tumor in the pelvic cavity posterior to the uterus, which lifted the uterus above the pelvic cavity to such an extent that there must have been considerable of a tumor there. On examination I determined that to be fluid. I got my instruments and, with assistance, made an incision posterior to the uterus and evacuated a good quart, at least, of pus. Then, the sac delivered—a dermoid cyst it amounted to—with hair and bony substance in this cyst. You could put your two fists into the cyst after delivery. The whole tumor was taken out through this incision into the vagina, and tied off, and I went to deliver the baby with forceps. When I put the forceps on the child's head, the Doctor remarked I must be in the rectum on account of the color and consistency of the fluid. I never saw anything like it, and he never did. It was very thick and yellow. The child, when it was deliv-

ered, was covered with this almost gelatinous substance. I made slight artificial respiration and the child commenced to breathe right away, and we had no difficulty with it whatever. The child is living and well. The woman had a pretty serious time of it for the next two weeks. There was quite a considerable inflammation and, aside from this uterus, which was washed out carefully at the time, she is well now with the exception of a laceration of the perineum, which sloughed from the discharging wound. I speak of it to emphasize another form of operation rather than the Cæsarian section.

A. M. CUSHING, M.D.: I believe it is quite the thing to save the uterus, but I think it is a better thing to save the patient. I want to relate one case something like the first one. I went to see a young woman—a primipara—and when I went to make an examination I thought she had three legs. I was surprised when I came to investigate—I found that she carried the child just even with her knees. After the labor I measured her and she was less than four inches from the sternum to the pubes. I found that I was in a fix. If I applied the forceps I would only bring the occiput against the pubic bones. I put my Yankee ingenuity at work. I placed a pile of pillows on the bed. I laid her on the back on the pillows, with the hips down on one side, and head and shoulders down the other. With one hand I raised the child up, and with the other I went to work and in a little while I delivered a seven and a half pound child.

O. S. RUNNELS, M.D.: I would like to emphasize one point in the paper, and that is the point which the essayist made in speaking of the operation as one of election rather than an emergency operation. The dilemma of being cut short in an un-surgical surrounding with assistants not at hand or anything there for good work to proceed is little less than a misfortune. To do this work deliberately before the commencement of labor, if you are so fortunate as to be consulted beforehand, so as to know what is ahead, is the ideal procedure. It is certainly a bad policy to wait and thus to be confronted with a problem of the most forbidding character. This is a surgical operation, and you should prepare for it as you should for any abdominal or other surgical operation and go ahead with it in a deliberate manner. I am sure that the results will be all that anybody could desire under those circumstances. If the apartments of the patient are not such as surgery demands, take her to a hospital, where you can have every convenience.

J. N. MITCHELL, M.D.: Mr. President, I get up to speak, not as an operator, but because Dr. Gramm referred to one especial point that seems to be overlooked by those who are operators, and which strikes me as being of the greatest importance, that is to advocate to our patients and practise ourselves invariably examining patients before they come to full term, in order that we may, as Dr. Runnels says, not be caught unawares. As a general thing, the operator is called to these cases by some one in consultation.

That particular man who calls him, if he had been aware of his patient's deformity sooner,might have prevented a Cæsarian section being called for, or, if needed, would have saved much of the risk of a delayed operation. If the examination was made, a tumor such as Dr. Gramm encountered would have been discovered before the patient came to labor. If examination and measurements were made in many cases we would be able to bring on premature labor and deliver the patient. But I think it is a very important thing to dwell on that fact, that every case at the time we are engaged for the confinement should be examined. I should say that I would refuse to take a case unless I could make an examination and be aware to the fullest extent as to the size of the pelvis. I have personally running through my mind now four different cases of tumors such as Dr. Gramm relates in his last case, and such as the other gentlemen referred to. In two of them I was able to deliver simply by lifting the tumor up by considerable pressure. In the third case, in attempting to do this, the tumor was ruptured and the patient died in that way; in the fourth case the tumor ruptured, and, notwithstanding that, the patient was safely delivered. But no doubt in these days of abdominal operations for Cæsarian section, the indication in all such tumors is not to attempt to use such pressure, but to perform the Cæsarian section. At the rishk of repeating myself, I would like to emphasize the importance of the statement of Dr. Gramm that we should examine all patients and make measurements before the time of labor in every case.

C. B. KINYON, M.D.: The statement of Dr. Runnels presupposes the necessity, the fact, of an examination beforehand, because it is not possible to elect an operation without a diagnosis —and you cannot make a diagnosis without positive, accurate measurements, and these measurements must be thorough, complete, and perfect. That is a necessary corollary to the operation being elective. The paper was well written, and the points are well taken and so well stated that I need spend no time in trying to emphasize them, for there were many excellent ideas brought out.

There are one or two points that occurred to me which the essayist did not emphasize from lack of time, and that is, while we elect an operation, which is the proper way to do, we may find that the os, after delivering the child, is not open as much as it should be, and if it is not well open we can open it from above—either by the finger or by a proper instrument—dilating the os. The Doctor did not mention this, but of course he does so in his practise, and it is well to bear this in mind in this discussion.

Another point the Doctor made was, after removing the ovaries, if I understood him properly, the uterus was not removed. This is not always an easy matter to decide. If the Doctor had gone ahead and removed the uterus and they found it out afterwards, and he had not got their consent, they might have made trouble for the Doctor. So I make it a point to ask them if they will leave it entirely to my judgment, whether I shall remove the uterus or not, in other words perform Borro's operation or not. Out of the six cases I have

had, I removed the uterus twice, and if I had occasion to remove the ovaries because diseased I should certainly remove the uterus too.

Another point which would give the wrong impression as left by the essayist. Of all the abdominal operations known to surgery, there is nothing so easy as the Cæsarian section. It is the easiest, quickest,safest and most satisfactory abdominal operation that I have ever performed. It is appalling to the average mind. Why? Because all these six thousand years we have waited until everything was infected and then it is almost always fatal, but the operation of election does away with nearly all the danger. There are just two principles to keep in mind—asepsis and election. They rid the lying-in-room of nearly all danger. Now, if we have the operation of election, we can perform Cæsarian section in three minutes, uterus and all.

Prophylaxis of Puerperal Eclampsia.

By Henry Edwin Spalding, M.D.

The extreme hazard in which the lives of mother and child are placed by the supervention of convulsions makes it the bounden duty of physicians to ward off these dangers by the judicious use of prophylactic measures. The fact that a few women have, through the stress of poverty, ignorance, or misguided effort, entered parturition with all the recognized physical conditions that culminate in eclampsia and nevertheless have passed through the ordeal without convulsions, can in no degree warrant following that *ignis fatuus;*—expectant treatment. Such cases we have seen, but in my personal experience they are usually multipara, who are less liable to convulsions than are primipara.

While the title of this paper does not call for, and the limited time prescribed for the presentation of a paper before this convention will not admit a judicial study of the causes and the pathological conditions attending puerperal eclampsia, they cannot be wholly ignored, since the relationship between cause and effect must be recognized if one would logically point out efficient remedial measures.

Although all agree that certain physical conditions portend convulsions, we must acknowledge that the deepest scientific research has as yet failed to disclose a generally accepted primal cause. It is probable that several causes combine to produce the eclamptic condition. During normal pregnancy the changes that take place in the blood, the circulatory apparatus and the emunctories, which we class as physiological, are on the border land of pathology, and need but to be augmented in degree to be pathological indeed. The maternal organism is doing a double duty in providing for the child *in utero.* Her emunctories must eliminate waste material from the fetal organism in addition to that from her own. The extra burden devolves most directly upon the liver, the kidneys and the skin. If, for any reason, as for instance, a diseased placenta, the burden is excessive, or if one of the emunctories is incapacitated, thus disturbing the equation of function, adequate elimination is not accom-

plished, and the products of metabolism are left in the system, giving us a toxic condition of the blood. The urine offers the most available index to the condition of the blood. If in the twenty-four hours' discharge there is found a markedly less amount of urea than normal, with the usually accompanying albumin, we know that the blood current is defiled.

That retained urea is not the cause of eclampsia is shown by the fact that urea in considerable quantities may be injected into the blood-vessels, and no convulsions result. Properly speaking, the convulsions are not "uremic" but "toxemic." There are toxines in the blood which have set up a nephritis, with the resultant abnormal urine. The kidneys fail to perform their normal functions in eliminating these toxines, whatever they are. Careful experimentation shows that the toxicity of the urine increases during normal pregnancy, and that with the development of the eclamptic condition it decreases. With the blood serum the reverse holds true; as the eclamptic condition develops the serum becomes more toxic. Moreover, as the condition becomes more serious the inverse ratio of toxicity of the urine as compared with the serum becomes more marked. Trustworthy experimenters have found in the blood of eclamptics xanthins, creatin, creatinin and acetone; also colonies of microbes, existing as emboli in the vessels of the various organs of the body, including the placenta.

We are warranted in assuming, then, without argument:

1. That during pregnancy poisons are constantly circulating with the blood current.

2. That these poisons are eliminated by the various emunctories, notably the kidneys.

3. That these organs failing to do their work, the poisons are retained in the blood and we have systemic poisoning, or auto-infection.

Accepting these premises it is very patent that the prophylactic treatment of eclampsia should be directed:

1. To establishing and maintaining a normal condition of the emunctories.

2. To reducing the relative amount of toxines in the blood.

3. To check the further formation of the toxines of pregnancy.

The measures for bringing about these results may be classified as hygienic, medicinal and operative.

Hygienic should consist in obeying the recognized laws of health. The lungs must have full scope to perform their functions, hence corsets and other constricting clothing must be avoided. It is no-

ticeable that the illegitimately pregnant are relatively most liable to convulsions. Doubtless the attempt to conceal pregnancy, as long as possible, by tight lacing accounts for this. Exercise should be taken systematically, the amount being regulated by the results. Hot steam or plunge baths, by keeping the pores free and setting up diaphoresis, are of great value. The bowels should be kept freely open by the use of laxative foods, abundance of pure water, preferably distilled, and, if necessary, the mild cathartic waters. The intestinal canal normally swarms with bacteria of various kinds. The feces are intensely toxic from effete matters, ptomains and liver excretions. The condition of sapremia, so often set up by the absorption of these intestinal matters, not only makes the blood a fertile field for the development of toxines, but added to other poisons may precipitate a convulsive attack. The diet should be carefully regulated. Without doubt a diet of milk, or mostly milk, is desirable. Some advocates of the milk diet claim that if faithfully carried out, although albuminuria may persist, delivery is never attended by convulsions. While we may not fully accept this claim, without doubt milk is the best food for these cases. In my personal experience, however, I have found that a mixed diet of vegetables and milk is most satisfactory to the patient and gives good results. Meats should be used very sparingly, if at all, on account of the presence therein of the xanthin bodies which, as I have already said, are found in the blood of eclamptics.

It is very important that water be drunk very freely in order that the tissues shall be well irrigated and the blood current augmented. Thus the toxic principle will be kept dilute and free elimination forced. The quality of water used is of great importance. Distilled or sterilized by boiling is desirable. At all events it should be pure as possible. Water containing lime-salts seems to favor the formation of toxic materials in the blood, as is shown by the fact that eclampsia is noticeably frequent in Belgium and Sweden and in our Ohio River States.

Medicinally much can be done. He will succeed best who most thoroughly individualizes his cases; notices carefully all symptoms, subjective and objective, and above all never forgets that pathological conditions are responsible for those symptoms. I would place *arsenicum* first on the list of prophylactic drugs. When we consider the close similarity the pathogenesis of arsenicum bears to the changes that normal pregnancy causes in the blood, the heart, the liver and other organs we can readily understand why it is more often than any other drug found a potent remedy for diseases inci-

dent to pregnancy, which are frequently only physiological conditions exaggerated. Moreover, its recognized value in treating nephritis in its various forms, demand for it a first consideration. *Apis, cantharis, cuprum, mercurius corrosivus* and *phosphorus* may be symptomatically called for. *Ferrum,* in some of its non-astringent forms, is called for by marked anemia and anasarca. It must, however, be given in material doses.

Apocynum cannabinum is of special value in cases of great edema. It must be given in doses that will produce some catharsis and diuresis. *Veratrum viride* in cases where convulsions immediately threaten, as well as during the attack. This must be given in doses sufficient to produce its pathogenetic effect on the capilaries and arterioles, thus relieving arterial tension. Personally I have been disappointed in it.

Pilocarpine is a drug that has been used and abused, praised and condemned. Personally I have used it in these cases with most beneficial results and have never seen serious edema of the lungs, or other complications from it. I never give more than one-eighth of a grain on the tongue, the second dose in twenty minutes, and after that repeat every half-hour until four or five doses have been given or free diaphoresis has set up. Occasionally only one dose will be needed, seldom more than two, unless the urgency of the symptoms makes it desirable to prolong the sweating. Then it may be necessary to repeat the dose in an hour or two. Among other symptoms I have seen those intense cerebral and cerebrospinal pains promptly relieved in this way and, by repeating the treatment every one, two or three days as the symptoms recur, carry the patient safely to and through her delivery. Care is required in its use that just enough, and no more be given than is necessary to produce the desired results. Thus as a sudorific it does work that the disabled kidneys cannot do. It drains from the blood some of its impurities. Similar results may often be obtained from steam vapor or hot dry air baths. These require more time, are not as comfortable for the patient and are more of a tax upon the attendant. Whatever sudorific is used while going through the treatment, the patient should drink as freely as possible. By this rapid absorption and elimination of water the blood is more effectually cleansed of toxic elements.

In the line of operative treatment venesection, at one time a chief reliance, later almost entirely discarded, is now again in vogue. In special cases it is unquestionably of decided value. Its indiscriminate use in all cases was responsible for its loss of prestige with

the profession. It is seldom called for except during the eclamptic attack, and the consideration of this condition does not come within the province of this paper. In rare cases, other means having failed and the symptoms of convulsions being imminent, blood letting may be resorted to as a prophylactic. It matters not whether used before or during the attack, the abstracted blood should be replaced by a larger amount of six-tenths of one per cent. salt solution, injected either into the veins or subcutaneously. Venesection removes toxines in proportion to the amount of blood drawn. By this much the irritation and resulting congestion of the cerebral cortex is lessened. The remaining poisoned blood is made less noxious by the injected salt solution; the danger of thromboidal obstruction of blood-vessels in the various organs is lessened; the irritation upon the vasomotor center being removed, the arteries relax; the overtaxed heart is relieved; the balance of circulation is restored; the kidneys and other emunctories begin to act, and the toxines are rapidly eliminated from the body.

While venesection is seldom called for before the advent of convulsions the use of saline solution, unattended by venesection, is of great value as a prophylactic when the symptoms indicate that the crisis is approaching. Exertion having been checked, the patient has been unable to take and retain the normal amount of liquids, hence the ordinary irrigation of the tissues has not been accomplished. The sudden flushing of the system with pure saline solution, at the same time diluting the toxine burdened blood, allays irritation of the nerve centers and as a logical sequence sets the excretory organs at work. The saline solution may be thrown directly into the veins. To do this safely requires great care, skill and competent assistance. Occasional throwing of large quantities of the solution into the colon, by means of the long flexible rectal tubes, gives good results, and is specially recommended on account of the safety and ease with which it can be accomplished. A more immediate result can be obtained by injecting the fluid into the loose connective tissues of any part of the body. From half to a pint can be injected beneath each breast, being careful that the needle passes well under the gland, between it and the chest wall, rather than into the gland itself. The same amount can be thrown subcutaneously into the axillæ, or abdominal wall. Having observed in abdominal sections, when the patients are sinking from shock and loss of blood, how almost immediately the pulse increases in volume if the abdomen be filled with warm saline solution, I have thought that this method might avail in parturient hemorrhage.

If in these cases, why not in cases of threatened eclampsia? As far as I know this method has been used but once, and that in a case which came under my care during my last terms of service in the Maternity Department of the Massachusetts Homœopathic Hospital. The results may warrant a brief review of this case.

The patient came with the history of having retained nothing on her stomach for four days. For three days had slept only a few minutes at a time, "probably not more than three or four hours in all." Had passed very little urine, which was highly albuminous. Mentally dull. Although under the close care of a skilled Homœopathic physician, her condition had steadily grown worse. On arrival she had a pulse of 120, temperature 99°. Skin dry, mouth and lips parched; great thirst, but could retain nothing; constant distress under the sternum, which the frequent retching and vomiting did not relieve; weak; semi-stupor; slow to respond when spoken to; eyes dull, pupils normal or dilated; occasional sharp pains in head, accompanied by flushed face and dilated pupils. Two hours after entering the hospital she voided four and one-half oz. of urine. Sp. gr. 1012, urea .01 gram per c.c., albumin .015 (by bulk), leucocytes, blood epithelium. Twelve hours later she passed five oz. of urine, and ten hours after that seven oz. A fair estimate would be twelve oz. in twenty-four hours. According to the test, there was being eliminated only 3.6 grams of urea, less than one-eighth the normal amount, in twenty-four hours. Besides the apparently indicated drugs, the patient was given a hot air bath, and a steam bath; neither inducing more than a slight moisture on the skin, and each apparently adding to her discomfort. One-eighth of a grain of pilocarpine was given on the tongue, and the dose repeated in half an hour. She vomited immediately after each dose and no sudorific results were obtained. High rectal saline and nutrient enemas were given, but they came away while being administered. A submammary injection of about one pint of normal saline solution was given. In about one hour it had been absorbed with marked temporary relief to the nausea and distress under the sternum. I decided to now allow the patient to rest from our efforts until morning, and note results. The morning found her in no better condition: Had slept in all about one and one-fourth hours. Her whole appearance was bad. Os was soft and dilatable, but no pains. The conditions hardly warranted immediate and forced delivery. At eleven A. M. I determined to try the experiment of injecting saline solution into the peritoneal cavity. The amount injected was about three pints, and it was done with very little discom-

fort to the patient. The result was all that could be wished. The distress under the sternum subsided, and although she soon began taking water and nutritive drinks, in small quantities, she vomited but once during the next fourteen hours. Meantime she retained nutritive enemas fairly well. Thirst was relieved; skin became moist; pulse soon dropped from about 120 to about 100. The kidneys did not respond as quickly as desired. No urine had been voided in the previous nineteen hours, and according to the nurse's notes there was none during the next twelve hours, in all thirty-one hours, when ten and one-half ounces were passed. As my memory serves me, the records are incorrect. I think she did urinate two or three hours after the intraperitoneal injection. During the next few hours her condition so improved as to warrant encouraging labor by a hot douche, and packing the os and vagina. Delivery was accomplished without incident. In using the saline solution it is needless to say that instruments and fluid must be absolutely sterile and that strict antiseptic precautions must be observed in all the details. The solution used was the usual one-sixth per cent., which is 36 gr., or one small teaspoonful, of salt to one pint of water. The instrument I used was an aspirator needle, a glass funnel and a rubber tube. A fountain syringe and the long needle, if thoroughly sterilized, is all that is needed. The fluid in the reservoir should be kept at 110°. Whether or not pregnancy should ever be brought to a speedy and early termination in order to escape threatened eclampsia is a question that has provoked sharp discussion. The theory that the gravid uterus, by mechanically interfering with the circulation, induces the eclamptic condition is disproved by the fact that it is never caused by equally large fibroids and cysts and, moreover, that convulsions sometimes supervene before the gravid uterus has reached any considerable size. It is altogether probable that some toxine which plays an important part in developing this condition is the direct product of fetal life. This is either an abnormal product of the fetus and finds its way into the maternal circulation through the placenta, or, on account of disease, the placenta fails to perform its normal functions of depuration and allows normal fetal matter that is toxic to the mother to pass unchanged into her circulation from the fetus. The last supposition seems probable, since a healthy placenta is seldom found in cases of eclampsia. Again when fetal circulation comes to an end through the death of the fetus *in uteror,* even while it is retained, albumin ordinarily disappears from the urine; the kidneys resume their functions, and other symptoms of threatening eclampsia subside. On the other hand

convulsions do not always cease with the emptying of the uterus, and sometimes set in only after delivery has been accomplished. The fact remains, however, that a large majority of cases are benefited by delivery even though it be accomplished only after the onset of the attack. When used as a prophylactic measure the results are even far better. If pregnancy is so far advanced that a few weeks at most will carry the child to the stage of viability, all other means should first be used for purifying the blood and establishing normal excretory functions. In case the milder measures fail, and the threatening symptoms persist, there seems to be no good reason for delay in emptying the uterus. Delay seldom saves the child, as few children survive many maternal convulsions. If albuminuria, deficient excretion of urea, edema, gastric disturbance, neuralgic pains, cerebral disturbance with impaired vision develops, before the sixth month, palliative measures will seldom avail and they should not be depended upon unless improvement sets in at once. The uterus should be emptied promptly. Delay courts danger, action casts danger aside.

Pernicious Vomiting of Pregnancy.

By L. L. Danforth, M.D.

There is no disturbance of the health in early pregnancy so distressing or so difficult to relieve as the gastric irritability to which the term pernicious has been given by obstetric writers. Certain women are peculiarly sensitive to the reflex influences engendered by the gravid uterus and early in pregnancy begin to suffer from nausea and vomiting, often to such a degree that they are finally unable to take and retain even the smallest quantity of the blandest nourishment.

As a result of this extreme gastric irritability the general health fails, the woman loses flesh, the eyes are sunken, the cheeks hollow, the tongue coated, the pulse rapid and weak, while the vomited matter often consists of bile and dark "coffee ground" material from the stomach or intestines.

The physician in charge of a case of this kind will naturally inquire why it is that such a serious illness occurs in the course of what should be an uncomplicated physiological process?

We speak of "reflex vomiting" with a great deal of familiarity, but I am inclined to believe that there is after all very little knowledge on the subject which is exact and based on accurate scientific foundation.

What do we mean when we say that the vomiting is reflex? Will the healthy gravid uterus provoke an irritation in correlated nerves of other organs, and induce such a disturbance of function as is observed in these cases of pernicious vomiting? Or must there be some morbid condition of the uterus antecedent to and aggravated by pregnancy in order to cause this disorder? Again, is not the stomach itself primarily at fault, and has there not been some previous disease which makes the organ peculiarly liable to still greater derangement in sympathy with the changes in the uterus established by pregnancy? And still further, is the influence of the gravid uterus exerted sympathetically upon the stomach directly and primarily, or is the brain the primary point of irritation, and the stom-

ach derangement a secondary affection? These are all practical questions and if capable of being answered at all satisfactorily the result cannot be otherwise than helpful in the treatment of these cases.

I shall attempt to answer these questions in the inverse order in which I have placed them.

First, with reference to the manner in which the uterus and stomach are correlated. Is there a direct or an indirect relation between these two important organs? Some light may be thrown upon this question by reference to a communication made to the *British Medical Journal* in October, 1887, by James Oliver, M.D., entitled "The Cause of Morning Sickness in Pregnancy." Dr. Oliver says: "Many theories have been adduced regarding the cause of morning sickness in pregnancy. All appear to have been speculative, and no one has met with anything like universal sufferance. Evolution may aid us in arriving at a just and feasible interpretation. From the earliest period of existence every organism has been endowed with two distinct qualifications: 1, that of maintaining self; 2, that of perpetuating species. At first the double function was performed by a uniform mass free from any semblance of structural differentiation. Habitual localization of function, however, produces eventually a specialization of structure, and with it the evolution of a new tract whereby the interdependence is maintained. It is, therefore, feasible to suppose that the nerve center which regulates the process of assimilation is either in apposition or at least in direct communication with that which presides over the organs of generation. All the visceral functions are now performed automatically and are regulated by nerve-centers located in the medulla oblongata; the uterine by inference being no exception. Considering the close relationship that exists throughout life between the two processes of assimilation and reproduction, there can be no doubt that the representative nerve-centers act and react upon each other. When the uterus becomes the nidus for a developing germinal mass, the molecular disturbances radiated therefrom to the productive center are liable to be transmitted to the pneumogastric as well and induce either a feeling of nausea or actual emesis. Usually, however, in the course of a few months, through habit, the pneumogastric center becomes tolerant, and the symptoms evidencing disturbance at the same time disappear. It is difficult to understand why the sickness should be experienced more especially in the morning, unless it be that the change from the recumbent position to the erect posture after sleep renders the whole nervous system more liable to explo-

sive disturbances. Frequently we find patients who only suffer from disturbances associated with epilepsy on assuming the erect posture after sleep. The more highly unstable the nervous system is generally, the more likely is a woman who becomes pregnant to suffer markedly and for a lengthened time from sickness, whether matutiral or more or less constant. It is well, however, to remember that the molecular radiations from the uterus itself may for some reason or other be materially augmented; and such acting on a nervous system otherwise apparently healthy may induce an aggravated turn of events." Closely related to the line of reasoning followed by Dr. Oliver and possibly dependent upon it are the researches made by Prof. Tumas on the subject of vomiting. Prof. Tumas (*Lancet*, October, 1887) finds that in dogs and cats section of the medulla at the level of the fourth ventricle does not prevent the occurrence of vomiting from hypodermic injections of apomorphia. By touching different parts of the medulla with a weak solution of apomorphia so as to induce vomiting he was able to localize with tolerable precision the situation and extent of the vomiting center, which he says lies in a space about five inches in length by two inches in breadth before and behind the calamus and in the deeper layers of the medulla.

The researches of Prof. Tumas and the deduction of Dr. Oliver are interesting and instructive and, if not wholly conclusive, certainly point by analogy toward the reproductive center in the brain as the locality to which the irritative influence exerted by the gravid uterus is directed.

That the "vomiting center" receives the impulse exerted upon it from the "reproductive center" it is reasonable to believe, and the stomach as the objective point of this irritation responds accordingly, or perhaps in proportion to the susceptibility of the stomach itself.

On the one hand, therefore, the brain center may be the most sensitive point, and on the other it may be that the susceptibility lies in the organ to which the influence is directed. I think it fair to conclude that perturbed nerve influence and correlated functional disorders act and react upon each other. In one individual the special seat of aggravation may be situated in the uterus; in another the "vomiting center" in the brain may be the hypersensitive area, while in a third the stomach itself may be the functionally depressed organ. If, therefore, a just balance could be preserved between all organs, we should have no morbid tendencies to deal with: health would be the order of things in this universe.

According to this view, the ordinary morning sickness of preg-

nancy is always pathological and never physiological. If the above statements are well founded we may now formulate a few principles which will suffice to answer the queries propounded in the beginning of this essay.

First. In the vomiting of pregnancy, the stomach itself is not the primary point of attack when disturbed by these influences which we designate as reflex.

Second. "Morning sickness" is not physiological, though when distinctly matutinal and confined to one or two attacks each day is rather salutary than otherwise. The pathological is only a question of degree and in its extreme form easily becomes pernicious.

Third. Pernicious vomiting may have its origin in a variety of morbid conditions of special organs, or in a highly sensitive state of sympathetically related organs. There may be:

(1) A congenital irritability of the nervous system that produces exaggerated response to normal reflex stimuli.

(2) Hyperesthetic states of the spinal and sympathetic nerves of the uterus. Under each of these heads may be mentioned the influence of sudden shocks or mental emotions, which are often exciting causes of local and general reflex irritability and therefore predisposing causes of nausea and vomiting.

(3) Morbid conditions of the uterus, notably dislocations of the pregnant organ whether congenital or acquired, or superinduced by pregnancy. Under this classification may be mentioned pathological conditions of the uterus of the nature of tumors of the body of the uterus: diseases of the cervix uteri, whether affections of the glandular structures or of the muscular and connective tissue elements. Cicatricial tissue, the result of former lacerations, doubtless favors nerve irritability and delays the softening of the cervix so essential to its normal development.

Preexisting and coexisting pelvic disease, as a salpingitis, pyosalpinx or an ovaritis, are all capable of increasing to a high degree the tendency to hyperemesis by the influence they exert upon both local and remote nerve ganglia.

(4) Pernicious vomiting is unquestionably more frequent in women who have previous to pregnancy been sufferers from pathologic states of the stomach, the liver and the intestines.

Chronic gastric catarrh, associated with functional derangement of the liver (lithemia) is certainly a predisposing factor in the causation of pernicious vomiting. Chronic constipation with fecal toxemia also has a most deleterious influence upon the nervous system as well as upon the stomach, and is often a coexisting symptom of

importance in connection with the etiology and treatment of these cases.

(5) Pernicious vomiting sometimes occasionally appears late in the course of pregnancy, and when of sudden development the death of the fetus is one of the possible causes to be thought of.

Another factor is uremic poisoning; though this latter condition manifests itself by so many other symptoms its influence could scarcely be overlooked or confounded with any other cause.

Symptoms.—In typical cases the ordinary morning sickness gradually increases in severity until there is an almost continuous retching and vomiting. Other cases are characterized by great depression from the first; no food is retained, and indeed there is great loathing of food, the mere sight or smell of it being sufficient to cause retching. The patient cannot raise the head from the pillow or even move an arm without emesis; she grows extremely weak and is subject to attacks of syncope. Emaciation progresses rapidly; the pulse is weak and rapid; the tongue dry, with a brown dry streak down the center of it; the lips become fissured and the teeth are covered with sores. The skin has a sallow hue and becomes hard and dry; intestinal and gastric pains are common. Instead of dryness of the mouth we sometimes have profuse salivation, the patient incessantly spitting frothy or ropy saliva. I have seen patients who have spat a pint or more of ropy saliva in the course of twenty-four hours. Sometimes the thirst is great and again there is entire absence of thirst. Occasionally there is great restleness and insomnia; the extremities become cold and clammy; the urine is scanty, highly colored, contains urates and sometimes albumin and casts. If this state of things continues the patient soon passes into an extremely dangerous condition. As regards the vomited matter, it is often green and bilious, and in extreme cases has the "coffee ground" appearance and sometimes is distinctly fecal in odor and appearance. A profound degree of exhaustion is the rule in these cases and herein lies the danger; death will follow unless relief is quickly afforded.

Treatment.—The treatment of pernicious vomiting of pregnancy and its serious sequelæ affords the most brilliant testimony to the efficacy of drugs prescribed according to the law of similars, and on the other hand according to the same method there have been the most dismal failures. Assuming that the remedy has been selected with the greatest care, or going still further we will admit that the exact similimum has been selected, in a series of a dozen cases of hyperemesis in pregnancy it is, I think, a fact which no

truthful physician of experience will deny, that in a certain number the pernicious symptoms will go on unabated. In other words, the remedy has not done all that was expected of it. What is the reason for this discrepancy? Such an admission as this may appear to be a denial of the efficacy of the carefully selected similimum. Not at all. It is simply an admission that we sometimes expect too much from our medicines, and that other factors have to be taken into account besides the selection of the drug which is expected to cure. I would emphasize first, therefore, the importance of a careful scrutiny of all the concomitant conditions and symptoms which may be associated with those which are paramount, *viz.*, those relating to the gastric irritability. Inquire first with reference to the digestive capacity of the patient before pregnancy; whether the functions of the bowels have been sufficiently and regularly performed; the quantity and quality of the urinary secretion. Renal insufficiency and fecal toxemia from impaction may be unsuspected causes of blood and nerve empoisonment which must be eliminated before any remedy, no matter how well indicated, can have a satisfactory effect. Here would come in the various hygienic and, if I may so express it, the sanitary regulations of function, the control of food and water, all of which are so essential to health.

Again the state of the pelvic organs must be investigated in an intractable case. One of the worst cases of hyperemesis I ever saw went on from bad to worse until a retroverted uterus was put in place and kept there by a suitable support. I am very sure that some cases are caused by diseased conditions of the cervix uteri. Old lacerations with cystic formations and cicatricial tissue about the external as well as the internal os will aggravate if not cause most intractable hyperemesis.

When diseased conditions of the cervix exist, the puncture of cysts, the use of boroglycerite tampons, and perhaps a careful dilatation of cicatricial bands at the internal os, will often prove highly beneficial in relieving some cases. Most of us believe more or less in the doctrines of the "orificial philosophy," and the principles underlying this system may be occasionally applied with benefit to severe cases of vomiting in pregnancy. Disease of the corporeal endometrium is often productive of abortion as well as hyperemesis. This condition cannot be treated during the existence of a pregnancy, but it should be taken into consideration after the pregnancy is terminated, to prevent a recurrence of the malady in succeeding pregnancies. There is no doubt much benefit to be gained by a careful regulation of the diet and the procurement of rest and freedom from

mental worry. The mental state has much to do in the causation of hyperemesis with many women. Hysteria is regarded as a cause by many writers. Emotional influences must be controlled so far as possible.

But outside all these local and general causes some of the worse cases we have to deal with are observed. Cases in which no cause can be ascertained—and there is no extraneous influence to be corrected. The patient simply vomits everything she takes into her stomach, and even retches when the stomach is empty if a hand is raised from the bed or the head from the pillow. Then if the properly selected Homœopathic remedy will not cure, nothing else will.

There are certain remedies I find often indicated, and if given as they should be the result will be satisfactory. Among these may be mentioned first in importance *arsenicum*. This remedy corresponds more closely to pernicious vomiting than any other. I am in the habit of giving it in the 200th attenuation in water every two hours. If the patient cannot retain even a teaspoonful of the liquid on the tongue, I then give just enough to wet the tongue, not enough to swallow, repeated at short intervals. If even this small amount is irritating I medicate the smallest pellets (No. 10) with the 200th dilution and drop a few on the tongue every hour. I have seen the most aggravated cases improve on this remedy. Arsenic is often the remedy *par excellence.*

Bryonia, 200th, will prove very useful even in the worst cases if given like arsenicum, when the patient vomits or retches every time she moves even one hand or turns in bed. The concomitant symptoms of bryonia are so well known I need not repeat them.

Symphoro-carpus racemosa (the snow berry) is useful in cases resembling the bryonia condition. The characteristic symptom of this remedy is this: As long as the patient lies in bed horizontal and perfectly quiet she does not feel the desire to vomit, repugnance to food or to the odor of it when being cooked. The remedy is especially useful in cases of *reflex* nausea. This remedy I have used with best effect in the second or third decimal trituration.

Phosphorus has recently relieved a most aggravated case, with the vomiting of sour food, the burning at pit of stomach, weakness in abdomen, etc.

As an example a patient may be dosed with unusual remedies. A case of hyperemesis which had as its distinguishing symptom profuse salivation, with continued nausea and vomiting, was relieved by *jaborandi* 3x trit. The patient complained of a sense of sourness

in the stomach and abdomen and vomited as soon as she swallowed solids or liquids.

There is one point which I believe we do not sufficiently realize in the treatment of these cases, and that is persistence in the use of the remedy we believe to be the right one—then to give the smallest possible dose. In most of the cases of pernicious vomiting I have seen I have had the best results with the higher potencies.

To enumerate many remedies would be taking too much time, but I must add that I have been greatly helped when the indicated remedy did not act by giving a dose of *sulphur* 200 with the principal remedy. Sulphur, by the way, is often *the* remedy, and has done most excellent service in my hands.

I am, furthermore, of the opinion that if we had our cases from the beginning of pregnancy and regulated the diet at the same time that we prescribed our remedies for moderate vomiting, there would be fewer cases of pernicious vomiting.

While I am of the opinion that the properly selected Homœopathic remedy will relieve pernicious vomiting—if the remedy is persisted in —in the great majority of instances, I am also aware from my observation in consultation practise, that there *are* cases which *do* go on to the extreme limit and life is endangered by the severity of the symptoms.

Before we discuss the propriety of inducing abortion for the relief of the pernicious vomiting, I would say a word about rectal feeding. It is often necessary to give the stomach absolute rest at least for a day or two if we would relieve the extreme gastric irritability. In such cases rectal enema of peptonized milk (℥ iii.) and bovinine (ʒ i-ii.) will be of great service. Or, we may use sarcopeptines or Mosquera's beef jelly (℥ ss of either) with water (℥ iv), and if the patient is very exhausted, one ounce of whisky. These injections should be repeated not oftener than once in four hours, and the rectum should be washed out occasionally to secure cleanliness of the tract.

As regards the induction of abortion, I would state as indications for immediate interference the following symptoms: increasing elimination in the daily quantity of the urine, containing a variable amount of albumin; progressive emaciation; dry, coated tongue; frequent, small, thready pulse and a peculiar apathy of the patient. The pulse is of the most importance in making a decision; the smaller and more frequent the pulse the more serious the case. If the pulse is moderately strong and not especially rapid, delay is admissible. Coffee-ground vomit, or fecal vomiting is a bad sign.

When a case has gone as far as the above indications signify, it is time to act. Delay may mean the loss of the mother. If all known means have been faithfully tried and the patient grows steadily worse, it is better to act than to delay until even action is dangerous.

When an operation has been decided upon there is no use in wasting time by slow methods of emptying the uterus. Proceed as for any serious operation by thoroughly cleansing the genital tract and instruments. Anesthetize the patient and proceed with a strong steel dilator to open the uterine canal. The dilatation may be easy or it may be very difficult. Be prepared for the difficult case. Thorough removal of the fetus and secundines followed by curettage and light uterine packing is the proper procedure. To insure contraction I often apply Churchill's Co. tr. iodin to the endometrium, then wash out and pack lightly. Generally, all symptoms subside and the patient only has to recover from the weakness incident to her previous illness.

A word of caution may be uttered with regard to the after treatment. The patient should be left in charge of a trained nurse or competent physician at least during the twenty-four hours immediately following the operation. The real crisis frequently follows immediately in the wake of the operation, and unless promptly met and effectually combated, all previous efforts will have been in vain.

One patient seen in consultation in an extreme state of exhaustion with fecal vomiting, weak pulse, etc., died within twelve hours after an easy operation for emptying the uterus.

Before closing I would say that my aim has been, in discussing the treatment of these cases of pernicious vomiting, to emphasize the great superiority of Homœopathic remedies over all others. The paucity of my therapeutics is due to lack of time and space. The object is in mentioning a few remedies to show the importance of selecting the remedy by a careful individualization of symptoms and then to give the minimum dose and adhere to it, meanwhile giving the stomach absolute rest by rectal feeding. If these means fail, then empty the uterus and do not wait so long that the patient will die from the shock of what should be a perfectly harmless operation.

REPORT

OF THE

SECTION IN MATERIA MEDICA.

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What Should Constitute an Official Homœopathic Pharmacopeia.

F. A. Boericke, M.D.

It is not the object of this paper to defend or attack any Hom-

œopathic pharmacopeia now in use, but to consider the fundamental principles which should serve as a guide in compiling such a work and to show the danger to Homœopathy in losing sight of these.

The very first principle in the preparation of Homœopathic medicines must be to adhere strictly to the original methods of Hahnemann, and of those who were engaged in making the provings. A difference in the quantity of the drug employed will cause a difference in the effects produced, and when used for making provings will produce different symptoms. Not even the supposed progress of science should be allowed to interfere with the upholding of this most important principle, for if Homœopathy is true *real* science will never conflict with it. The importance of this was seen by the American Institute of Pharmacy, which laid down the rule (*North American Journal of Homœopathy,* August, 1869) that: "The Manual of Symptoms having been arranged from trials of medicines, its value to the practitioner can be made available only by the use of remedies as nearly identical as possible with those experimented with." This was unanimously accepted by the Institute at that time. This means that medicines should be made by similar methods from the same substance, and, in the case of plants, from the same species; gathered during the same season; and the same parts as those originally used.

Hardly second in importance, and really making one with it, is absolute uniformity in the mode of preparation. Let the whole school combine in establishing a uniformity of preparation; let the individual physician insist on this. If there is sufficient cause to make any changes, then this should be universally adopted. When one physician successfully prescribes a preparation made in a certain way, and another expects to reach the same results with differently made preparations, there will be disappointment and doubts, perhaps, of the truth of Homœopathy itself. The cause of Homœopathy has suffered considerably on this account.

There have been established rules for the preparation of Homœopathic medicines which have been in use for many years, and the resulting preparations have successfully served physicians in the past; a change in the mode of making these preparations must be considered as an experiment, and may jeopardize the welfare of Homœopathy.

There are essential differences in the tinctures of *aconite, belladonna, bryonia,* etc., prepared from the juice of the plants and those prepared by macerating the whole plant in alcohol. There are essential differences in a tincture made from the root of a plant and

one made from the leaves. There should be instruction on the differences of the methods pursued and a clear understanding obtained from comparisons and experimenting. To assist in the proper discrimination and identification of our preparations it is of considerable importance to have a description of a standard preparation as to color, odor and any additional indications that may assist to this end in an official pharmacopeia. It is to be regretted that in many cases the physician does not take enough interest in the subject to make the necessary investigations, and it is to be hoped that such an interest may be aroused by this discussion and that the physicians will thoroughly study the matter.

It is well known that two tinctures from different pharmacists rarely are the same, even where "scientific accuracy" is claimed; the physician should insist on knowing the reason. *Without uniformity in the preparation you cannot expect uniformity in the results.*

Consider well any proposed changes before making them, and do not leave this to the pharmacist. The pharmacist is the servant of the physician, and the physician should assert his prerogative by insisting on preparations which he *knows* to be made by the best methods and which he *knows* will correspond to the symptoms given us by the provers. When a change in the method of preparation is proposed, it must be considered whether the change is worth more than what may be sacrificed. In general it is not useful to make a change unless it is absolutely necessary. A change in the proportion of parts used is comparatively unimportant and the general idea of adhering to the proportion of 1-10 in the preparation of our tinctures, as the allopaths do, is in many particulars very useful, and the difference will probably only be in the strength of preparation, but to change the mode of preparation, to macerate a plant instead of using the juice only, or substituting different parts of the plant for those originally used, in my estimation, endangers the welfare of Homœopathy. No accurate prescriber would be willing to use tinctures made from the dry plant where the fresh plant has always been used, and it must make even more difference to macerate the plant in alcohol instead of using the expressed juice only, as heretofore.

It is not always possible to determine the exact method pursued by the prover in the preparation of his medicine, and provings of the same drug may have been made from preparations differing in some respects, but this cannot be used as an argument against endeavoring to follow the same methods where those methods are

known, or, in the case of Hahnemannian remedies, to continue making them by the formula laid down by Hahnemann.

It is never in the province of a pharmacopeia to combat or deny the practise or experience of any portion of the school. A pharmacopeia should be a purely historical work. It is "a book of formulæ or directions for the preparation, etc., of medicines" (Dunglison), and it is entirely beyond the scope of a work of this kind to attempt to refute or defend any existing theory. It is a serious mistake for a Homœopathic pharmacopeia to repudiate the effects of dynamization on drugs, or to put a limit on the potencies; leave that latter to the individual practitioner. As for the former, dynamization, we can establish its truth by the experiments of old-school scientists, who repudiate Homœopathy, yet who are at this date slowly arriving at the conclusions Hahnemann formulated over sixty years ago. Professor Schulz of Greifewald, Germany (reported by Dr. Heingke in *Populaere Zeitschrift fuer Hom.*, August, 1888), made a series of interesting investigations which compelled him to this conclusion, namely: "Every irritant exercises an action upon the living cell, the effect upon cell activity being inversely proportionate to the intensity of the irritation." In him we have a scientist demonstrating by experiment the very point that Hahnemann and the earlier Homœopaths contended was true, that is, the curative powers of an indicated drug are greater the higher that drug is potentized. Whether there is a limit to the development of this drug power in exciting the cells does not enter into the scope of this paper, nor, it may be added, into that of a pharmacopeia. Professor Jaeger of Germany, by his neural analysis, gave a tangible demonstration by purely scientific methods of the action of drugs attenuated to the 30th potency.

Carl von Naegeli's experiments are so recent that they need not be dwelt on here at any length. Briefly stated, he discovered that a solution of metallic copper of 1-100,000,000 in water was sufficient to kill spirogyra. The manner in which von Naegeli made this copper solution brings up another point, peculiar to the early days of Homœopathy, which a Homœopathic pharmacopeia should not deny, namely, the solubility of metals, or the so-called "insolubles." Von Naegeli obtained his solution by suspending four clean coins in a liter of distilled water for four days.

More instances of the solubility of metals might be cited, but as that fact is now no longer seriously questioned in scientific circles it would be useless. The fact, of interest to Homœopaths, remains, that the old Hahnemannian method of converting the so-called in-

solubles into dilutions from the triturations of those metals, or drugs, was the proper one, and to-day has the unconscious sanction of the most learned modern scientists. But we should believe this, not because a tardy science now admits it, but on account of the works of those old preparations. They have been weighed in the balance and not found wanting.

DISCUSSION.

J. WILKINSON CLAPP, M.D.: A brief analysis of leading points is all the time allowed me permits. Dr. Boericke clearly disclaims any attack on any existing pharmacopeia, yet the whole trend of his argument indicates his objections to the Pharmacopeia of the American Institute of Homœopathy. These objections may be classed under two heads, *viz.:*

First, that the rules for the preparation of tinctures so vary from "old-time methods" (Hahnemann's original directions) as to render the tinctures different from the preparations used in making the provings.

Second, the omission of rules for the preparation of dilutions from insoluble substances.

I believe, Mr. Chairman, that if Dr. Boericke had more carefully studied the new pharmacopeia and Hahnemann's rules and had carefully compared the two, he would have been convinced of the non-existence of the conditions which he so much fears and which he has to-day named, for the tincture-making rules of the new pharmacopeia do not vary essentially from Hahnemann's.

The pharmacopeia has not entered into a discussion of the potency question as it is not within the province of a pharmacopeia. The new pharmacopeia does give certain facts in regard to solubilities, and it does omit rules for the preparation of dilutions of insoluble substances, not as condemning them but because they are faulty as pharmaceutical preparations, because they are not what their labels indicate.

Now, Mr. Chairman, as Dr. Boericke is the proprietor and publisher of the American Homœopathic Pharmacopeia, and as it is claimed that the rules in this book for the preparation of medicines are based on Hahnemann's directions, it is proper for us to infer that this pharmacopeia is his acknowledged standard and that he looks upon this work at least as following or better representing "old-time methods."

To obtain a clear understanding of the question at issue I will review briefly Hahnemann's directions and compare them with the methods of the Pharmacopeia of the American Institute and with those of the American Homœopathic Pharmacopeia.

It should be understood first, however, that when Dr. Boericke refers to changes from original methods he has direct reference to the substitution of the process of maceration for that of expression, that is, in making a certain and limited class of tinctures.

Dr. Boericke has not expressed objections to any other of the

requirements in the tincture-making process of the new pharmacopeia, nor have others so far as I know.

Hahnemann gave directions for the preparation of *only* 47 tinctures. Of these he made from dried substances 23 tinctures as follows:

From dry drug, in the proportion 1-20.....	17
From dry drug, in the proportion 1-10.....	2
From dry drug, in the proportion 1-100.....	3
From dry drug, in the proportion 1-8.....	1

In Volume II. of his "Chronic Diseases" he gave us a general rule as follows:

"All those drugs which can only be had dry should be pulverized and 20 parts of alcohol should be added to 1 part of the powder," etc. These tinctures were all made by maceration, as was also scilla made from the fresh bulbs in the proportion of 1 to 6, and thuja fresh green leaves in the proportion of 1 to 1⅔. He directed that 26 tinctures be made by expression, that is, by expressing the juice and the addition of equal parts of alcohol, and this is the entire number to which Dr. Boericke's objections can apply. But Hahnemann gave us some latitude here. In his directions for making five of these medicines, he in each case gave the option of preparing tinctures from the dried drug, this of course by maceration, and in three of these cases he gave the liberty of substituting the dried root for the fresh plant or leaves.

Let us here quote from Hahnemann direct. In his "Materia Medica," Vol. II., page 37, under Helleborus Niger, he wrote:

"Express the juice of the recent plant and mix it with equal parts of alcohol; or else prepare the tincture from the dried root." See also under Arnica, Asarum, Mesereum and Oleander.

This would clearly show that Hahnemann did not object to substituting maceration for expression in these cases, for he certainly must have employed this method; but for further and conclusive evidence let us quote from his directions for the preparation of euphrasia in his "Materia Medica," Vol. II., page 132:

"Express the juice from the whole plant and mix with equal parts of alcohol. Toward the end of summer the juice is so tenacious that the plant has to be reduced to a pulp and alcohol added before the juice can be expressed." Now, if Hahnemann considered that the addition of alcohol direct to the plant was going to take up substance not desired, he certainly would have noted the fact and directed that tinctures of this plant should be made early in the season. I think you will agree with me, therefore, that Hahnemann did not entertain the same views as expressed by Dr. Boericke here to-day. Further, we have found that only 26 tinctures were prepared by Hahnemann by expression, and that five of these he prepared both by expression and maceration. This reduces the number subject to Dr. Boericke's objection to twenty-one, and if we examine the American Homœopathic Pharmacopeia we shall find that this work in seven instances abandons the directions of Hahne-

mann and directs that these tinctures be made by maceration, and these include some of our principal remedies, namely:

Pulsatilla, rhus tox, stramonium, verbascum, cannabis, arnica, euphrasia.

Now this is what Dr. Boericke specially condemns in the new pharmacopeia, and if he considers that this change of methods really impairs the value of these tinctures, how can he reconcile these changes in his own standard of authority?

I do not wish to be understood as condemning our friend, Dr. Boericke, for preparing his tincture of pulsatilla by maceration; on the contrary, in so doing I firmly believe that he has improved his tincture and has taken a step in advance of "old-time methods," but this reduces the number to which Dr. Boericke's objection will apply to sixteen, that is, that a macerated tincture will differ from the tincture from which provings were made. The list is as follows: Aconite, belladonna, bryonia, chamomilla, clematis, cicuta, cyclamen, drosera, hyoscyamus, menyanthes, ruta grav., sambucus, stramonium, taraxacum, dulcamara, digitalis, conium, verbascum.

I would ask you, Mr. Chairman and others interested, to take from the shelves your copy of "Allen's Encyclopedia" or the "Cyclopedia of Drug Pathogenesy" and ascertain the sources of our materia medica for these drugs. We will consider but a single one here, belladonna. The pathogenesy of this drug in "Allen's Encyclopedia" is taken from 280 sources, which include provings and poisoning from a variety of preparations, including tinctures of the plant, of the root, infusions, the crude drug, such as the leaves and the root, and even plasters. Is it possible that we can take from the plant by the process of maceration any principle which will change its character as a medicine? If so, do not the facts in the case demand that all the active principles of the drug should be included in the tincture, and if the process of maceration is necessary to secure this should it not be insisted upon?

But Dr. Boericke may argue that other tinctures of this class have been added since Hahnemann's day. This is true, as in the American Homœopathic Pharmacopeia out of 460 tinctures, the total number named, 45 are made by expression; that is, the tinctures are made by adding equal parts of alcohol to expressed juice. These tinctures, however, with only a few exceptions, are imported, the plants not being indigenous to this country. In fact, Mr. Ernesty, who was one of the editors of the American Homœopathic Pharmacopeia, in his little work on Homœopathic Pharmacy, lately published, classes all of the first and second class tinctures of this pharmacopeia as imported tinctures. Certainly, they all were introduced into our materia medica on the other side of the water, and all the original provings were made from European plants or tinctures.

Now to compare the pharmacopeia of the American Institute of Homœopathy with the directions of Hahnemann as to the drug and the part used. A careful comparison of the directions for the preparation of all of the medicines named by Hahnemann will show but three changes from his directions, as follows:

Parts Employed.—Difference between Hahnemann's directions

and those of the Pharmacopeia of the American Institute: Under chelidonium Hahnemann used the juice of the root, the Pharmacopeia of the American Institute directs the use of the plant including root; under rhus tox. Hahnemann used the juice of the plant, the Pharmacopeia of the American Institute directs the use of the fresh leaves; under mezereum Hahnemann used the dry plant, the Pharmacopeia of the American Institute directs the use of the bark.

These changes are made for good and sufficient reasons, and it should be noted here that the same variations from Hahnemann have been made in the American Homœopathic Pharmacopeia.

Further, Hahnemann in his tinctures from dried drugs made the crude drug the unit of strength. The Pharmacopeia of the American Institute does the same. But in Hahnemann's tinctures made from fresh plants he made the juice the unit, whereas in the Institute Pharmacopeia to secure uniformity in all cases the dry, crude drug is made the unit and the water of the plant is counted in the menstruum. It must of necessity form part of the menstruum, as certainly water is not a part of the drug power. How then can it be claimed that the new pharmacopeia differs essentially from Hahnemann's methods?

Let us now compare Dr. Boericke's standard, the American Homœopathic Pharmacopeia, with Hahnemann's directions. This work includes under four classes directions for making 455 tinctures and five not classified. Now of the 47 tinctures introduced by Hahnemann there are but 18 tinctures prepared according to Hahnemann's directions. Twelve vary in the part used. Seventeen vary in strength, and other variations may be noted. In fact, of the 460 tinctures named in the American Homœopathic Pharmacopeia less than 60 are made according to Hahnemann's rules, and only 18 of Hahnemann's original 47 agree with his directions.

Let us note some of the variations. The American Homœopathic Pharmacopeia makes 270 tinctures in the proportion of one part drug to two parts alcohol. These are included under Class III., and it is claimed that the fundamental rule for making this class of tinctures is given by Hahnemann under scilla.

Now, as a matter of fact, Hahnemann made his tincture of scilla in the proportion of 1 to 6, and this was the only tincture made by him in this proportion. He did not make a single tincture in the proportion of 1 to 2.

The American Homœopathic Pharmacopeia also includes 125 tinctures made from dry crude drugs under "Class IV." These are made in the proportion of 1 to 5, and the fundamental rule for preparing them is said to be taken from Hahnemann's "Materia Medica," under spigelia and staphisagria. As a matter of fact, Hahnemann made both of these tinctures in the proportion of 1 to 10, and, again, these two tinctures were the only ones made by him in this proportion. Most of his tinctures from dry crude drugs were made in the proportion of 1 to 20, others 1 to 100. Can it then be said that Dr. Boericke's standard has followed "old-time methods" or "the rules of the master" even in essentials?

Now, Mr. Chairman, all these questions received careful study

and consideration on the part of your committee, and the English system of tincture-making, adopted for our new pharmacopeia, was unanimously approved. Further, it had already been a subject for consideration by three distinct committees of the Institute, all of which gave it their unqualified approval, and their reports were accepted by the Institute without a protest or a word of adverse comment.

In view of these facts and that the action of the Institute and its instructions to its Pharmacopeia Committee to make use of the British Homœopathic Pharmacopeia as a basis in order to secure the English system of tincture-making has been known for the past ten years how can any member at this late day consistently offer opposition to the acceptance of its pharmacopeia?

A few words only to show the advantages offered by the new pharmacopeia.

First. It gives a well-defined and unalterable unit of strength, and this is not found in any other pharmacopeia with the exception of the British.

Second. This unit of strength enables us to make our dilutions and triturations agree in actual strength, and this most desirable result is not obtained by the use of any other pharmacopeia. To illustrate. The second decimal of any dilution or trituration always contains just 1-100 part of the crude drug, and the third decimal just 1-1000 part. Therefore, we can always know by the indicated strength just what the actual strength is, or, in other words, the exact proportion of the crude drug present.

The solvent is selected with reference to the requirements of the drug, a feature that is not considered in the older pharmacopeias.

Third. It simplifies our nomenclature.

Fourth. It does away with the dual system of notation.

Fifth. And, finally, it has introduced scientific methods into Homœopathic pharmacy.

To reject it is to acknowledge that we can make no advance in pharmacy. Mr. Chairman, can this Institute afford to take any such position?

In conclusion I desire to show to you four tinctures of cinchona which will illustrate the advantages gained by the use of improved methods as directed in the new pharmacopeia, and also as proof that a tincture made from a dried drug in the proportion of 1 to 5 does not necessarily possess greater strength than one made in the proportion of 1 to 10.

These first three tinctures are all made from the same cinchona (red) bark obtained from E. R. Squibb & Sons, the fourth from yellow. The assayed strength of the red bark was 5.85 per cent.

The first tincture was made by percolation and in accordance with the directions of the Pharmacopeia of the American Institute in the proportion of 1 to 10. Its assayed strength shows .41 per cent. of alkaloids. The second tincture was made by maceration in the proportion of 1 to 5, in exact accordance with the rules of the American Homœopathic Pharmacopeia and from the same lot of bark as the first tincture, but its assayed strength is only .38 per cent. of

alkaloids. Note that while double the quantity of bark was used in making it, it has developed less strength than the first.

The third tincture was made from the dregs which naturally would have been thrown away after preparing the second tincture; in fact, these dregs contain more of the alkaloid and drug strength than has been taken from the original drug in making the second tincture.

Now, in making this third tincture it took 385 c.c. to exhaust 50 gm., so its assayed strength indicates but .22 per cent., but if concentrated to the same bulk as the second it would contain even greater alkaloidal strength.

Mr. Chairman, I would ask how it is possible to demonstrate more forcibly the results of improved methods.

The fourth tincture is much lighter in color, as it was made from the yellow cinchona bark. It is of equal value and is used by some pharmacists in preference to the red bark. Its assayed strength is .36 per cent. This tincture shows that color is not always an indication of strength.

W. A. DEWEY, M.D.: I have not prepared any written paper on this question; my discussion will be very short, as I have only one or two points to make. I did not understand that the paper of Dr. Boericke was intended to uphold the American Homœopathic Pharmacopeia, or to decry the pharmacopeia of the Institute; it was simply to lay before this body some of the reasons why we should stick to the principles—the original principles—as laid down in the original provings. For instance, he states here a proposition which, I think, cannot be avoided without endangering Homœopathy, that is, that the very first principle in the preparation of Homœopathic medicines must be to adhere strictly to the original methods of Hahnemann and those who are engaged in making the provings. A little further down I find this: "This means that medicines should be made by similar methods, of the same substances, and, in the case of plants, from the same species gathered during the same season and the same parts as those originally used."

I have given the new pharmacopeia some study. I do not offer this as an attack upon that book; I think there is in it, with some corrections, the making of a very excellent guide for the preparation of medicines; but I took last winter the heading called "Parts Used," and I find a great discrepancy between the original methods—the original parts used—not going back to the American Homœopathic Pharmacopeia, nor the British Pharmacopeia, but going back as far as I could to original studies of the drug which are, for the most part, found in Allen's "Encyclopedia" and in Allen's "Hand-book." I find some striking discrepancies; for instance, we will take first the tincture of cannabis indica; the new pharmacopeia directs the tincture of cannabis indica to be made from the alcoholic extract. The provings were made from a tincture prepared from the dried herb tops. No one is going to tell me that dilutions made from the alcoholic extract will produce the same result as those from the dried herb tops.

Dulcamara is another. Dulcamara is made, according to the new pharmacopeia, from the whole plant before flowering. As I understand in pharmaceutical language, when we speak of the whole plant we mean not that growing above the ground—that is designated as the herb—but the whole plant, root and all. Allen says the tincture of dulcamara should be made from fresh green stems. There is certainly a difference in this and a tincture made from the whole plant root included.

Gelsemium tincture, according to the new pharmacopeia, is made from the fresh root. The monograph of the Hughes Club gives the bark of the root, and so does Allen. There may not be very much difference in that, but there is a difference. Piper methysticum is another one in which the new pharmacopeia recommends the dried root; Allen says the fresh root. Conium, the new pharmacopeia recommends the whole fresh plant in blossom; the root is not included according to Hahnemann and according to Allen. There are *thirty* of these in all; I will not present them. But there is one point, it seems to me, that if we are going to have tinctures made from parts differing from those from which the provings were made, there is the rock upon which we shall split; and if we go on using them we will find there will be a difference in the effects from medicines which we have been long used to employ.

The rest of this paper is so complete in itself and I think so well presented by Dr. Boericke, I would emphasize this sentence: "Without uniformity in the preparation you cannot expect uniformity in the result." That seems to cover the whole question. It is not my desire to attack the Homœopathic Pharmacopeia; I believe the book could be made a good one; I believe there are errors in it; I know there have been errors collected from it by a gentleman that have been given to me; but I do not intend to show these. Those I present now I collected myself—thirty remedies in which the parts used differ from the parts used in the provings. Of course, there are some other points in the pharmacopeia like the directions as to time of gathering, whether in bloom, before blooming, or after. This is not given except in rare instances, and that is an important point. Sometimes simply the root is given, not stating whether dry or fresh. In other cases the pharmacist or physician is left to guess what part to use, as under solidago. As to the typographical errors of the book, it is stated, page 32, that adjectives derived from persons should be written with capitals; and yet it is not followed up throughout the book. It seems to me the fundamental thing is, shall we stick to remedies prepared according to the methods and from the same parts of the plant that we have been using, or shall we go on into new fields, which I believe will land us in doubt? Some time ago I wrote to several pharmacists in the country, asking them what pharmacopeia they used. I received answers from four pharmacists who stated that they used the Pharmacopeia of the American Institute of Homœopathy. I waited for some time—nearly a year—and gave those pharmacists an opportunity, if they had any of the old tincture, to work them off on their customers, and ordered from each an ounce of tincture of sanguinaria. One of the sam-

ples was blacker than this gentleman's coat, completely opaque; another one was light and pale, and the third was a tincture which corresponded about to the ordinary sanguinaria tincture as we have learned to recognize it, and the fourth one was altogether different in color. There was as much difference between these tinctures of sanguinaria prepared according to the new formula, or, at least, these gentlemen say they were, as there is between black and pink. A tincture of sanguinaria does not vary that much if it is made properly. I do not believe they made it properly, though they said they did. We have just passed around here some tinctures of echinacea (I believe there are fourteen of them) from a certain number of pharmacists. This, in itself, shows the necessity of having some uniform method of preparing tinctures, because we cannot apply to a proving made with a green tincture dilutions made from a brown tincture or from some other part of the plant than that originally used.

H. M. SMITH, M.D.: Mr. Chairman, I move that the matter of pharmacopeia be referred to the Institute for general discussion. I fully agree with Dr. Boericke that the Homœopathic physicians pay too little attention to the preparation of their remedies; they do not make themselves sufficiently well acquainted with the tools they work with. [The Chairman inquired if Dr. Smith wished to make a motion.] I am leading up to doing so with my reasons therefor. It is a significant fact that the third motion made at the first session of the American Institute of Homœopathy, held in 1844, was in reference to the materia medica—the nomination of five members to serve as a "Bureau for its augmentation and improvement." Less than five years afterward the Institute considered the question of Homœopathic pharmacy and appointed a committee to ascertain how our remedies were prepared and also to report on the feasibility of establishing a pharmacy to be under the guidance of the Institute, for the purpose of preserving uniformity in the preparations. The large attendance at this sectional meeting shows the interest felt in the paper just presented, and such is the importance of the subject that an opportunity should be afforded for its free discussion. Regarding the "Pharmacopeia of the American Institute of Homœopathy," it was the intent of those engaged in its preparation, of whom I was one, to present a work that should maintain the essentials of Homœopathic pharmacy as adopted by Hahnemann and formulate uniform methods of preparation whereby officinal tinctures might be recognized. The great difference in the fourteen samples of a tincture of the same remedy that have just been exhibited shows the necessity of establishing some standard. This would in no way interfere with special or private prescriptions, but would enable the prescriber to distinguish between the *officinal* and a special or proprietary preparation of the pharmacist.

J. H. CARMICHAEL, M.D.: Mr. Chairman, I am very glad that we have heard this paper, and I am very glad, indeed, that we have heard Dr. Clapp's reply to it; and I think the effect of the discussion should

be to give a greater impetus to the Pharmacopeia of the American Institute of Homœopathy, so that those who have not already adopted it may do so—that the Homœopathic profession may have the advantage of at once reaping the benefit that will accrue from the use of this work. Using, as we do, the decimal system in the preparation of dilutions, it requires very little effort to see the great advantage that results from having a tincture beginning on that system, so to speak—a tincture that represents the one-tenth strength of the drug, of the dried, crude drug—not, as a great many suppose, the new pharmacopeia recommending the tinctures to be made from the dried plants; but, as you are aware, taking the dried plant in the first place as unity, and securing that by taking a given quantity of the fresh plant, weighing it, and then slowly evaporating it to dryness; weighing the dried plant, the difference between the given weight of the dried plant and that of the fresh plant giving the amount of moisture, and that is taken into account in the preparation of the tincture. We have, as near as pharmaceutical science will give, an exact tincture representing an exact drug-strength; and, more than that, in nearly all instances it represents the strength of one-tenth, therefore corresponding to our first decimal dilution. From that the preparation of the dilutions is a very simple matter, in the proportion of 1 to 9 of the menstruum. Under the former system our drugs were in different classes of tinctures, representing different strengths. I know, from my personal experience among physicians, that in not one instance out of ten did they pay any attention to the strength of the tincture; but if they made a dilution they invariably took one part of that tincture to nine parts of the menstruum; and, consequently, when a cure was reported, or a case was reported in which the second or third decimal dilution was used, we did not know what strength of drug was represented in that; and in many instances if we supposed that it was a second or third decimal dilution, we were very wide of the mark. That is one of the great and important points gained by the new pharmacopeia.

To refer to one other point: in reference to the expressed juice of a plant in the making of a tincture and the same tincture made by maceration of the plant, we have got to remember that if a tincture is a tincture and has any drug-power at all to produce symptoms, that that drug-power must exist in the active principle of the plant—the alkaloid, so to speak, or the active principle. Speaking in a general way of the expressed juice of a plant does not represent the active principles of the plant in all instances: the juice of a plant is simply a watery solution, holding what it may in it; and certainly we are in no danger so far as our Homœopathic principles are concerned, or so far as the symptoms derived from that drug are concerned; we are in no danger whatever in substituting a tincture made by maceration, where we must get more of the principle which was in the expressed juice and which gave the potency to the tincture in the first place and produced the symptoms in the first place—we must get more, and we must get a better tincture, it

seems to me, if it is made by maceration, taking into account our methods of pharmacy.

J. L. MOFFAT, M. D.: If we are aiming at scientific accuracy we must do what the old school are doing, assay our tinctures. If every manufacturer of a tincture of echinacea had given us the assay strength of this tincture, we could look at those bottles with a little more intelligence and then we might understand that the color had nothing to do with the strength. Sometimes it has, sometimes it has not. I can understand our pharmacists do not want to assay their tinctures for different reasons; but we doctors want them to do it. Whether they are going to mark the assay strength on every bottle of tincture they sell us, or whether they will submit themselves to inspection or have their assays upon request—these are practical questions to be decided later; but the American Institute ought to put itself on record in favor of the most scientific procedure. I am surprised that the pharmacopeia did not state that we ought to have our tinctures assayed.

Now as to the question of the old and the new pharmacopeias—a tincture that is ⅙ drug strength according to the old and 1-10 according to the new. It is a perfectly simple matter to give one or two more drops of the weaker preparation and give just as much medicine, as far as our application of it clinically is concerned. Practically, the relative dose of tincture is comparatively unimportant unless given for its so-called physiological effect. I don't believe one physician in a hundred pays any attention to these points; but our books should; and when we say what our standard is we should specify its assay.

E. C. PRICE, M.D.: I want to say a word about the attempt to give us the drug for therapeutic uses, or, rather, the preparation from the same part of the plant that has been used in proving the drug. On reviewing the sources of our materia medica, or our symptomatology, we find it cannot be done in ninety-nine times out of a hundred, because all sorts of preparations have been used; the root, the fluid extract, the tincture and all sorts of dilutions. How are we going to get a preparation—one preparation—that is going to cover all that we want it to do? So that the next best thing to do is to take the part of the plant that has been suggested, that has been assayed, to show what proportion of the qualities it contains. That is what we are getting at, it seems to me; and I think the new pharmacopeia is working right in that line, exactly, and we ought to encourage it. As Dr. Smith tells us, if this book does not suit us, let us get out a second edition; don't let us go back to the old methods; we have grown out of them. Suppose Hahnemann does give us certain rules; we are not living in Hahnemann's time; he did the best he could for the advantages he had in his time. We

are standing on his shoulders, so far as scientific methods are concerned, and we ought to act accordingly.

J. H. McCLELLAND, M.D.: From a physician's standpoint we want to make sure of securing the full medicinal properties of the drug and exact uniformity. When the American Institute of Homœopathy appoints a commission composed of those best fitted for the task, and it spends ten or fifteen years in perfecting and improving our pharmacopeia, and this work has been adjudged well done by the Institute, and it adopts it as its own, as the standard for its membership, it cannot in reason stultify itself by approving of some other standard. If we practise safely and intelligently, we must have a uniform method of preparing our drugs, and it must be the best method. There have been slight errors discovered in the first edition, most of them typographical errors, or, at least, verbal errors, but these can be corrected. It has been established that the principles and methods laid down in the Institute pharmacopeia are correct. By them we secure, as nearly as possible, the whole medicinal virtue of the drug. By the older methods, in some instances, we do not get all that is in the drug, and it is certainly no disadvantage to improve on this. The greater includes the less. It seems most extraordinary that anybody should come before this Institute and ask it to throw overboard the result of all this labor and return to a pharmacopeia that we know is imperfect.

O. S. RUNNELS, M.D.: There is nothing in this world perfect that has human agency mixed up in it. It is utterly impossible to have a thing absolutely beyond criticism. We are told that there are spots even on the sun. Making a criticism is a very easy thing to do. It is a harder thing to do it better. We have been working more than twenty years upon this pharmacopeia; we have brought it up to this point of excellence, and now if there is any way to put the stamp of the Institute upon this work, I say we ought to do it most emphatically, and to stand by it. We must teach our pharmacists that we demand of them a certain standard of excellence and that they must come up to it. If our committee can formulate any plan by which we can pull them up to that high standard, let us have it. If a pharmaceutical house will not conform to the standard agreed upon, rule it out; we won't touch any of its goods.

CHARLES MOHR, M.D.: As a teacher of materia medica I find it absolutely necessary to have a standard Homœopathic pharmacopeia. This Institute, as we have been told, has committed itself to a work which they have called the standard, to which all Homœopathic pharmacists ought to conform. Now that work undoubtedly contains errors, typographical errors, possibly errors of graver import; but there is no earthly reason in the world why that pharmacopeia—why revision should not make it as perfect as a pharmacopeia can be made; and I think, Mr. Chairman, that our Institute ought to take this matter in hand and recommit that pharmacopeia to the original committee for revision; and I would fur-

ther say that inasumch as one of the original members of it has since died, that we place on that committee Dr. F. A. Boericke, so that this committee may be influenced by whatever good advice he can give in the way of revision. Now I would say, let that pharmacopeia be published after it has been thoroughly revised by this committee; then I would throw out a further suggestion that a permanent committee be appointed, and I believe it would be best to have such a committee appointed on the part of this Institute and on the part of the National Homœopathic Pharmaceutical Society, which, I believe, has recently been organized. That committee to consist of five of these practical pharmacists, and the other five to be constituted of members of this Institute who are practitioners of medicine. Let that be a revisionary committee; let the work be in their hands; and let them issue at intervals of five or ten years a new edition of the pharmacopeia, with all the corrections, expurgations and additions which it has been found necessary to make in a certain period of time. I don't believe it is possible, at any time, no matter how much revision we may give a work, to print a book of as many pages as the pharmacopeia must contain without some errors being found in that book; but it should be made as perfect as possible, and I believe that some such body as I have suggested is the committee to do it.

The Therapeutic Guides, Primary and Secondary Symptoms, Their Relative Therapeutic Value.

By Thomas C. Duncan, M.D., Ph.D., LL.D.

The idea that induced me to take up this subject was to try to throw some new light on drug study, with the hope that the selection of the remedy might be simplified, believing that the *secondary,* and not the *primary symptoms* are the *therapeutic guides* according to similia.

It is one hundred years since Dr. Hahnemann wrote the essay on "A new principle for ascertaining the curative power of drugs," in which he stated, "Most medicines have more than one action; the first a direct action, which gradually changes into the second (which I call the indirect action). The latter is generally a state exactly opposite the former. In this way most vegetable substances act. *Opium* may serve as an example. A fearless elevation of spirit, a sense of strength and high courage, an imaginative gaiety, are part of the direct primary action of a moderate dose on the system, but after the lapse of eight or twelve hours an *opposite* state sets in, the indirect action, there ensues relaxation, dejection, diffidence, loss of memory, discomfort, fear." This analysis of drug action is further explained in section 63 of the "Organon":

"Every agent that acts upon the vitality, every medicine deranges more or less the vital force and causes a certain alteration in the health of the individual for a longer or shorter period. This is termed primary action. Although a product of the medicinal and vital powers conjointly, it is principally due to the former power. To its action our vital force opposes its own energy. This resistant action is a property, is indeed an automatic action of our life-preserving power which goes by the name of *secondary* or counter-action."

Then in section 64 he says:

"During the primary action of the artificial morbific agents (medicines) on our healthy body, our vital force seems to conduct itself merely in a passive (receptive) manner and appears, so to say, compelled to permit the impressions of the artificial power acting from without to take place in it and thereby alter its state of health; it

then, however, appears to arouse itself again, as it were, and to develop (*a*) the exact opposite condition of health (counter action, secondary action) to this effect (primary action) produced upon it—if there be such an opposite, and that in as great a degree as was the effect (primary action) of the artificial morbific or medicinal agent on it and proportional to its own energy; or (*b*) if there be not in nature a state exactly opposite of the primary action, it appears to endeavor to differentiate itself, that is, to make its superior power available in the extinction of the change wrought in it from without (by the medicine) in the place of which it substitutes its normal state (secondary action, *curative* action)."

With this explanation these actions might be termed (1) disease-producing or pathogenic and (2) curative action or therapeutic. It takes both, however, to record the full effect of the drug.

It is a little singular that more attention was not given to keeping the two classes of symptoms separate. Hahnemann in his works carefully noted the time of the appearance of the symptoms (but rarely the dose taken or the description—temperament—of the prover). The effect of large doses and small in proving have been developed since his day.

The question of potency it was thought might be solved by a study of primary and secondary effects of drugs, so this subject was once before the Institute.

In 1875, at the Put-in-Bay meeting of the American Institute, there were papers read on this topic. These papers were not printed in the transactions, but from the *Medical Investigator,* that I had the honor to edit then, I find that "Dr. Dake thought that Hahnemann was right in distinguishing symptoms as primary and secondary." Dr. T. F. Allen's conclusion was, "that we cannot arrive at anything definite until more careful experiments are made with the same dose. What appeared like primary and secondary effects often were but successive series of symptoms. *Aconite,* for example, had four such series of symptoms." Dr. Wesselhoeft's paper "gave a series of experiments with *glonoine.* The effects were found to vary with the dose and with the individual. He was not able to draw any practical inference." Dr. Dunham believed that "as these symptoms (primary and secondary) can only be partially pointed out, no law of dose can be established, nor can they be used in the selection of the remedy." These conclusions should not deter further investigation, however.

To properly comprehend the effects of drugs upon the healthy body, the normal action of the various related organs must be well understood. Action and rest is the order in all the systemic organs. The brain rests when we sleep, the digestive organs have their pe-

riods of repose, and even the heart rests two-fifths of the time. The temperaments emphasize certain organic activities; the same is true of habits and environment. So-called foods like tea and coffee, and drugs like tobacco and alcohol, also act upon the body to disturb the normal rhythm of the organs.

(I often wonder if the symptoms attributed to certain tinctures are drug effects or alcoholic, or both.)

The systemic rhythm is exaggerated by *alcohol.* The circulation and respiration are quickened and the brain functions and its nervous connections are stimulated. That is the primary effect of a small dose. Then follows anesthesia, and of necessity, retarded circulation, respiration, mentality and various other functions. That is the secondary effect.

But what shall we say when we find in experiments with drugs, *strophanthus,* for example, that the circulation is first retarded down to the point of an intermittent pulse and then the circulation becomes quickened. This is opposite to part of the action of *alcohol* and must be drug effects, and may also be classified as primary and secondary, as far as the circulation is concerned. This rapid circulation of *strophanthus* must also slow down, and perhaps it drops below the normal and may oscillate, showing a series of effects, if we overlook the normal activity and rest of the organs.

Aconite may give rise to a series of effects, yet we all recognize that its action upon the *nervous system* (giving a decided chill to be followed by a "feverish, restless apprehension") is a sort of grand outline of *aconite*—a therapeutic guide. We may for the sake of classification call the chill action primary and the feverish reaction secondary. When we come to examine the effect upon an organ, the dual action may be found to be clearly outlined. Among the organs is perhaps the best place to study the consecutive action of drugs, as we must do in the specialties. Hahnemann illustrates this in Sec. 65 of the "Organon," to which the reader is referred.

If, for example, the use of alcohol is continued in large doses, structural change in several organs develops. The tachycardia is followed by hypertrophy and dilatation of the heart. A drug to cure that heart must correspond. *Strophanthus* corresponds to the secondary organic cardiac change, and that explains its remarkable curative effect here. [Seven drops of the tincture cured an alcoholic hypertrophied weakened heart and the alcoholic (brandy) appetite as well.]

That astute medical philosopher, Von Grauvogl, has pointed out that the action of the organs is phoronomic; "the result of the propor-

tional oscillations of the organic activities." It is these, as we have seen, that are affected by drug action. However explained, he is of the opinion that the symptoms are those of drug action from start to finish. But that does not lessen the therapeutic value of the dual set of symptoms.

In drug pathogenesis it is expected that the drug effects upon all organs of the body will be so well developed that the full "course of action" of the drug will be brought out, often by repeated provings. The materia medica student recognizes the fact that every record, obtained in the trial of a drug on the healthy, is only fragmentary at best; a series of trials must be instituted before anything like the full power, complete action of the drug is recorded and ready for classification, which for our purpose should be physiological as well as anatomical. The course of action, from start to finish, should also be outlined by a master mind.

It is no accident, we have seen, that drugs produce dual or successive effects. Hahnemann wisely noticed these and the problem given us by Dr. Dudley is to determine:

"What reasons are there for distinguishing the primary direct and counter effects from the secondary direct and counter effects of a drug?" Taking the two extremes of drug action, our answer would be:

First. That drug action like diseased action, must follow a definite course and develop a natural history. Some drugs begin with certain organs, others with others.

Second. For classification of similar acting drugs it is necessary to know the trend of effects among the organs.

Third. How can we know dissimilar drugs if not developed in the primary and secondary effects?

Fourth. How shall we know the antidotal drugs and why they antidote?

Fifth. The therapeutic reasons are more decided still. If the secondary or reactionary or latest symptoms are the curative ones, the full effect, consecutive effects, primary and secondary, must be clearly developed.

Sixth. The order of the drug effects upon the organs must correspond to the disease to be treated, according to similia.

If, for example, a bronchitis begins in the pharyngeal mucous membrane and passes into that of the larynx and trachea and into the larger and smaller bronchi and gets well in a reverse order, then a remedy selected, according to Similia, must have a similar course of action to arrest the disease. Have we such a remedy? Are we not obliged to use two or more in succession?

Seventh. Drugs do not seem to have the full history of most diseases, hence as therapeutics we must select for successive stages of the disease, and to do that we must know the successive relations of drugs to each other.

Eighth. We need the classification of symptoms into primary and secondary so that we may know what drugs will succeed each other in time, locality and severity.

If a bronchitis is so severe or persistent or aggravated in its course as to pass the tidal barrier and the inflammation extends from the capillaries into the parenchyma of the lung, giving us a bronchopneumonia (lobular pneumonia), and this disease gets well in a reverse order, we must select drugs with similar lung record, *i. e.:* primarily, inflammatory, and secondarily, catarrhal.

Ninth. The attention of the therapeutist will be centered upon the secondary effects of drugs and the convalescent symptoms of disease he seeks to hasten.

The pathogenesis of drugs should be so classified that the physician may readily learn the secondary symptoms.

(There is something more the therapeutic student should have, and that is a chance to study the persons and the order of development in the different temperaments before classification. Hahnemann was of a nearly pure nervous temperament and hence the mental and nervous symptoms are well brought out in most of the drugs he proved. Take the proving of an acid and if the prover is a full-blood alkaline subject the symptoms would not be the same as in a nervous person. These points have a practical bearing in developing pathogeneses, and they should be noted for the guidance of the therapeutist.)

In practise, our effort in acute diseases is to cut them short by selecting sharply acting similar remedies. It is the convalescent symptoms we desire to hasten.

If we can, for example, lessen the stage of congestion in pneumonia and hasten that of resolution, we feel that rapid convalescence is begun. As Prof. Mays (*Phil. Polyclinic*) says:

"There is a very close association between the crisis of acute pneumonia and the fatty metamorphosis of the vesicular exudation which occurs in this disease; so soon as this chemical transformation is complete, which takes place in a comparatively short period, the time for the crisis is ripe, but if the *vital forces* are wanting in vigor there is danger that the fatty metamorphosis will be supplanted by the still slower process of caseation. In either case the crisis will be absent."

Here is where *phosphorus,* the similar remedy, has won its laurels in hastening fatty metamorphosis—the secondary organic effects of *phosphorus.*

In chronic (organic) diseases, following the guide of Hahne-

mann, we seek to recall the earlier symptoms as rapidly as we can. To accomplish that we must select a drug with a similar train of symptoms—if the law of selection is similia. Hahnemann calls the secondary effects "curative," and so it would seem that the last symptoms are the restorative ones.

Hughes, in his "Pharmaco-Dynamics," seems to agree with this, for he says that, "The *primary* action of drugs are rarely available for true *curative* purposes." The materia medica men say that it will be difficult to arrange the symptoms in any sequential order, to divide them into primary and secondary symptoms. It will not be so difficult if the symptoms of each organ are studied separately, as is being done by the specialists. It is a great work and both therapeutics and drug students can assist, when they take the cue here outlined.

It is believed that the "characteristics" are chiefly found among the secondary symptoms. Why they are often therapeutic guides we now find an explanation. The experts in certain sections of the body are busy sifting out the curative end of drug effects.

In trying to condense the salient symptoms of the diseases of the heart and the remedies therefor, I was struck with what Bæhr terms "the confusing, contradictory effects of drugs." What to give students as characteristic and curative was a vital matter. Should I tell them, for example, that *digitalis* is used by allopathic physicians to "bring down the pulse," and then they complain of the cumulative depressing action of this drug? We must know this dual action of *digitalis* on the circulation. Turning to Allen's great and invaluable storehouse we find in its pathogenesis 110 heart symptoms recorded, which should be stamped upon the mind of the young practitioners. Turning to Hawke's "Characteristics," p. 69, we read under *Digitalis:* "All heart troubles accompanied by an irregular or intermittent pulse; pulse small and slow." Now, ignoring all the primary rapid heart symptoms of *digitalis,* the secondary ones only were given the students to memorize, condensed as follows: "Very *feeble* and *irregular* action of the heart with *feeble, small, intermittent* pulse. Sensation as if the heart would stop, on motion."—Duncan's "Handbook on the Heart," p. 57. As far as the heart is concerned, the secondary symptoms seem to be the therapeutic guides.

Where did Prof. Porter (New York Post-Graduate School) learn this therapeutic hint?

"A more modern and better rule is to use *digitalis* only when there is a *general low tension* of the vascular area with a tendency to *venous engorgement.* When the tension has been restored and the engorgement overcome, then stop the use of *digitalis.*" The secondary disease effect is here to be met by the secondary (curative) effect of the drug.

We might illustrate the effect of *digitalis* upon the healthy circulation about as follows:

The size of the dose in proving must enter into this problem. As Dr. H. V. Miller well says: "The first symptoms of a drug proving may be primary or secondary, according to the size of the dose. Comparatively large doses are required to produce, upon the *nerve-centers,* a decided and powerful impression. This is primary and may be either irritating and exciting or depressing, according to the nature of the drug. The succeeding vital reaction (organic) is secondary. But small doses produce a prompt reaction *without developing primary symptoms.*"

If the small dose realm is in the secondary field, that will explain why modern skilled men, like chest experts of all schools, are giving small doses. This is especially true in the use of *digitalis.* (Vide Ellingwood's "Mat. Med. and Therapeutics.")

If the secondary symptoms (on the organs) are the curative guides we must not underestimate the great value to the practitioner of the most complete provings. He must refer to and study such great collections of drug effects as Allen's "Encyclopedia" and Hering's "Guiding Symptoms." He will long for more complete provings on various parts (organs) of the body than are given in the "Cyclopedia of Drug Pathogenesy." In Hahnemann's day books we should have to study the course of the action of drugs—as being dug out by Woodward. Hienicke's "Outlines" help at this point also, so does Gross in a comparative way. The condensed works of Lippe, Hering, Cowperthwaite, Allen, etc., are made up largely of secondary symptoms of the drugs. Some give both and confuse the practitioner thereby.

Teste, Dunham, Hughes, Burt, Farrington et al. are physiological studies of value, read by the light of secondary curative effects. The new crop of hand-books (Hawkes, Dewey, H. C. Allen, Nash) in a measure give only the secondary symptoms and are useful as therapeutic guides to a certain extent. The arrangement should be physiological.

When therapeutics (drug therapy) come to be recognized as a separate department and has a literature of its own, apart from disease study on the one hand and drug study on the other, then this drill of "the manual of arms" will not be so confusing. Pathogenesis and therapeutics are as distinct as pathology and therapeutics. In therapeutics we match perhaps a few symptoms of disease with a few symptoms of drugs. To do that scientifically and successfully implies accurate knowledge and sound judgment. In this battle the

coming symptoms, the secondaries, are anticipated and removed.

We might outline our conclusions as follows:

1. Drugs, like diseases, have a definite course of action producing disease types.

2. Diseases take a definite course: (1) functional if acute, (2) organic if chronic and in (3) an abnormal constitution.

3. Secondary symptoms of disease are the convalescent ones.

4. The *course of the remedy* action and *course of the disease* must correspond, according to Similia.

5. Hence, *the secondary drug symptoms seem to be the therapeutic guides.*

The Construction of a Scientific Materia Medica.—What Evidences of Purity Should Be Exacted in Drug Pathogenesis?

By Pemberton Dudley, M.D.

How shall a materia medica be so constructed as to fulfil the requirements of the 144th section of Hahnemann's "Organon"—a materia medica in which "everything shall be the pure language of nature carefully and honestly interrogated," and from which "everything that is conjectural, all that is mere assertion, and all that is imaginary shall be strictly excluded?"

At the close of the first century of our professional existence we find ourselves face to face with the fact that our past endeavors to accomplish this object have proved a somewhat ignominious failure. We have incorporated into the composition of our so-called pathogenesis about everything that floated within our reach. We have sometimes halted a contribution at our gates, have questioned and criticized it; have pointed out its lack of trustworthy credentials; have called attention to its evident unscientific character, its crudely stated symptoms and its self-contradictions, and have—admitted it, just the same. The amount of this accumulation is simply vast. The proportion which we absolutely know to be the "pure language" of the drugs represented therein is relatively very small. A small part of it represents known truth; another small part represents almost equally well-known error; and by far the larger portion is to be designated as doubtful.

The elimination of the spurious symptoms from this mass has been the thought, if not the work, of the century. Whatever efforts have been put forth to accomplish this object have been in the nature of what are called "clinical tests;" by which it was assumed that the genuineness of a symptom could be substantiated by the fact of its disappearance from a case of disease after the administration of the drug which had been supposed or alleged to produce it. By this process we have been "corroborating" and "confirming" (?) symptoms thus "proved" (?) to be genuine; but we have not thus established the spurious character of a single symptom; and, of course, we

never will; simply because the clinical test (if it be worth anything at all) bears no testimony at all in relation to the spurious symptoms, but only in reference to those that are genuine. For the purification of the pathogenesis of drugs, as we have it on record, the clinical test is hopelessly impotent, as any moderately schooled philosopher could have told us before we inaugurated it. It undertook to prove thousands of "negatives." It has not yet proved one.

Even were it possible to test pathogenetic symptoms by means of clinical experiments we should still be confronted with the fact that our clinical testimony is well-nigh as unreliable as our pathogenetic testimony. Only in infrequent instances can it be positively and unquestionably asserted that a case of disease has been actually "cured" by the action of a drug; *i. e.*, cured in the true and specific sense in which thoughtful Homœopathic physicians employ that term. The ordinary disappearance of a symptom during drug treatment is of exceedingly small value as a test of the curative potency of the remedy employed, and as an evidence of the pathogenetic verity of the symptom its worth is almost infinitesimally minute.

Almost the entire business of scientific research consists in the discovery and demonstration of truth, rather than the hunting down of error. Science will chase a supposed truth ten leagues when she would not follow a falsehood five feet She seeks to know the things that are, rather than the things that are not. Medicine, if she would claim to be scientific, must follow the methods and accept the ruling principles of science. She must interest herself in demonstrating with vastly more care and skill than heretofore the therapeutic properties of the agents she employs. In this particular every one of the great schools of practise is equally at fault.

The records of phenomena observed during experimentation with drugs on the healthy human body are universally known to include symptoms not attributable to drug action. These records, therefore, cannot be accepted as such in the construction of a pure materia medica. In other words, pathogenetic records and materia medica are not one and the same thing, whatever we have been accustomed to consider them. If we are ever to possess a "pure materia medica" we must begin by recognizing this distinction practically. The Homœopathic profession of the world must cooperate as a unit in the work of deciding, under well-defined philosophical principles, not which of our provings and symptoms are spurious, but which of them are certainly genuine. The provings and symptoms thus attested must be designated by some special sign, to be afterwards published, either separately or in association with other symptoms,

as our further knowledge or the demands of the profession may seem to suggest. But whether published separately or otherwise, these attested symptoms should always carry with them the sign of their recognized authenticity. Symptoms deemed not to have demonstrated their genuineness would simply retain the place they now occupy as part of the records of pathogenetic experiments ("provings," if you must retain this incorrect word), but not as yet constituting a part of the recognized and authenticated materia medica; and retaining unrestrained opportunity to establish their verity at any time in the near or distant future.

And now the issue that has confronted the Homœopathic profession from time immemorial will need to be modified. We shall no longer ask ourselves the question: "How shall we distinguish the genuine symptoms from the spurious?" but our problem will be a far easier and more satisfactory one: "How shall we distinguish the symptoms which *we know* to be genuine from those which *we do not know* to be genuine?" And the first question to be solved is the one which constitutes the title of this paper. We must remember, however, that it is not a question in medicine, but a problem in philosophy. Its final answer must be determined, not by the physician as such, but by the student of the principles and methods of inductive logic. Yet the physician must furnish certain general facts of knowledge as a basis for the consideration of the logician in his work. Let us examine a few of these facts; but let us, as a preliminary, cite two passages from that magnificent work, "A System of Logic," by John Stuart Mill.

a. "Whatever be the proper mode of expressing it, the proposition that the course of nature is uniform, is the fundamental principle, or general axiom, of induction." Eighth edition, page 224.

b. "The uniformity of the course of nature is the ultimate major premise in all cases of induction." Page 225.

If these two propositions be true—and I have never heard either of them questioned—then the pathogenetic occurrence or phenomenon which is devoid of the element of uniformity cannot be made a premise in an inductive syllogism. In other words, such a phenomenon is outside the realm of induction. Neither science nor art can employ it for any useful purpose. "Like Noah's dove, it flits between rough seas and stormy skies." It can never find a resting place in all the universe of thought or of action.

The following matters of medical fact constitute, in my opinion, the basis on which the question of the purity of a pathogenetic record or of a symptom must be chiefly determined:

1. The action of a drug upon the healthy human body under uniform conditions is uniform. Without a settled conviction of the truth of this statement, there could be no Homœopathic art.

2. The uniformity of drug action manifests itself in uniformity of pathogenetic symptoms. The experimenter who repeats his test in the same manner will at each repetition obtain a repetition of the symptoms.

These propositions are true as a general statement, but:

3. The action of a drug upon diverse experimenters is marked by diversities in the resulting symptoms.

4. Repetition of the pathogenetic test by each experimenter will produce a repetition of the symptoms first obtained by each.

These also are statements of a general truth. There is a diversity in the uniformity, and there is also a uniformity in the diversity.

5. In tests made by diverse experimenters there will be uniformities of symptoms as well as diversities, and the former will far outrank the latter, both in number and importance.

To this latter proposition there may be an occasional exception, but it will be due to idiosyncrasy or to some marked peculiarity of the experimenter's organism or of his environment.

6. An idiosyncratic experimenter may, and probably will, elicit symptoms largely at variance with those obtained by others. But his repetition of the experiment will exhibit the same uniformity in the idiosyncratic symptoms as in those more commonly observed.

7. When a symptom—idiosyncratic or otherwise—obtained by an experimenter, cannot be reproduced by his repetition of the experiment or by any other experimenter, it is not to be safely attributed to the action of the drug, but to some other influence, with the following exceptions:

a. A symptom exhibiting strong resemblance to the generally obtained results of the drug's action; *i. e.*, in its modality, or its locality, or in some other quality, must be regarded as presenting evidences of genuineness, even though it has not been reproduced.

b. A symptom exhibiting physiological relation to a part or organ on which the drug is known to exert its specific action, should not be ruthlessly rejected, even though it may have been obtained in but a single experiment.

These are some of the facts, observable by medical investigators, on which to base the rules and methods of determining the genuineness of our provings, and of the separate symptoms composing them.

It must be borne in mind that the proving of a drug bears rela-

tion to the following subjects of consideration: the quality (physical, chemical and dynamic) of the drug; the quality (including the susceptibility) of the experimenters; the environment and habits of the experimenters; the conduct of the proving (including the form or preparation) of the drug; its dose; its repetition; time of administering, etc.) and the notation of the symptoms, their times, periods, modalities, etc. Every one of these factors is a legitimate and necessary subject of scrutiny and professional criticism; and I may say that the conduct of the proving seems to be the one most in need of it and the one which has received less than any of the others.

In the work of proving a new drug, the following method should be insisted on: *First,* preliminary tests should be made on a number of persons to ascertain the largest dose which can be taken without serious inconvenience or danger. Then the individual experimenter should take this dose and watch its results until its effects had passed entirely off. Then, after a sufficient period of recuperation had been enjoyed, the experiment *should be repeated without the slightest deviation from* in any particular from the method of the first experiment. This process should be repeated, I should say, at least five times. Then the results of the five experiments should be carefully studied and their uniformities and other harmonies noted.

Secondly. A series of similar tests should be made by at least a score of experimenters. Each experimenter's records should be compared separately as already described, and finally the records of the whole twenty should be made the subject of a rigid scrutiny by several physicians skilled in the knowledge of drug-pathology. The records should be published first, this being followed by such comments of the examiners as might be deemed helpful to a study of the drug.

This series of experiments should be followed (never preceded) by two others. One should consist of tests on a new set of experimenters with a dilution—not higher than the first, second or third decimal—conducted in the same manner and subjected to the same exactions as to the resulting uniformities of symptoms by each prover and by the whole twenty of them. Any lack of a striking uniformity, as well as a general one, should be sufficient reason for withholding the records from publication till further experiments could be made.

The remaining series of experiments should consist in the administration of relatively small and but slightly effective doses at short intervals and continued for a considerable time, the object being to determine the more subacute or chronic form of the effects

of the drug upon an organism saturated with it. If the drug were like many others we should thus obtain a strikingly different class of symptoms; but these, like the others, should be designated by some special sign to enable the Homœopathic prescriber to distinguish them from those obtained by the other methods.

From the considerations set forth in this paper it is suggested that the symptom seeking admission to the recognized materia medica should furnish the following evidences of qualification:

1. It should be attested by credentials showing that it had been obtained by experiments conducted under intelligent supervision and direction.

2. It should have been elicited by an experimenter possessed of good health at the beginning of the experiment and throughout its progress.

3. It should be accompanied by an authenticated statement showing in detail all the particulars of the method by which the experiments were conducted.

4. It should have been obtained by at least one experimenter who could demonstrate his ability to reproduce the symptom at pleasure; or else—

5. It should be shown to have occurred in the progress of multiple experiments exhibiting distinct evidences of uniformity in their pathogenetic results; and it should be shown to constitute a part of said uniformity.

6. It should be accredited with the essential element of uniformity if it showed congruity with the general effects of the drug either in its quality, its locality, its modality, or in its undoubted physiological relation to an organ or function known to be specifically and strongly affected by the direct action of the drug.

7. It should be shown to constitute a part of a more or less complete symptomatology of the drug.

How to Administer the Indicated Remedy.

By Geo. Royal, M.D.

When I began teaching materia medica I gave no instructions as to the manner of administering the indicated remedy. There were two reasons: First, because I considered the subject of little importance. Second, because it seemed to me that what little attention the subject did demand belonged either to the chair of Theory and Practice or to the preceptors of the students.

A more extended observation, however, has shown me that Homœopathic physicians follow no general rule in administering remedies. More than that, I am convinced that many times the properly indicated remedy has failed to cure, because, either through the ignorance or carelessness of the physician, it has been *improperly* exhibited.

Therefore, I want, at this time, to enunciate two or three general propositions, and after hearing your opinions formed from experience I hope I may be able to formulate a few rules which I can give my classes for their guidance.

My first proposition is: That all remedies should be so exhibited that they will reach the objective point in as short a time and with as little change as possible. By change I mean alterations from vitiated secretions or excretions of the body, dirty dishes, impure water or other contaminated vehicles.

This, at once, raises the question as to whether remedies act best in powders, solutions, triturate-tablets, emulsions or some other form.

To my mind there is no doubt that the great majority of our drugs will act most promptly and effectively if given in solution.

When a quick response is wanted, I notice physicians give their remedies in water. I have demonstrated the truth of the above again and again in my own practise. Most of our remedies, even if carried in other forms in our cases, can be and should be dissolved in water when left for the patients, providing that the water be pure, tumbler and spoon clean.

Those who listened to Prof. Bailey's paper at Omaha last year, or have since read it, I think will find therein a scientific reason for this method.

At this point I want to enter my earnest protest against the use of triturate tablets. It is true that they are more convenient for both physician and patient, but I do not believe they are either accurate or scientific.

The second question which my proposition seems to raise is: whether after the drug is dissolved it shall be administered by olfaction, inunction, hypodermically or by the mouth or other orifice of the body.

In regard to the method of administering the remedy, the physician has greater freedom of choice, with more assurance of success, whatever his choice, than when the form of the drug is under consideration.

The stale old story of the Homœopathic physician who cured his patient by a few inhalations, and who was amply paid by the said patient permitting him to smell of his wallet is still being circulated and enjoyed by the physicians of the dominant school.

And yet I fail to see why moschus, melilotus, euphrasia, allium cepa, arum try., and others of that class should not be administered by olfaction with as good results as amyl nit., chloroform or ether when so administered. The only question to be asked is: "In which form will the remedy act most rapidly?"

Could I have a hypodermic syringe for each drug, I would, except in such instances as the above in septic diseases, always administer my remedies to adults hypodermically. Why? Simply because the remedy is thrown, at once, into the circulation and is not contaminated by vitiated secretions or otherwise.

It is surprising how thoughtless some otherwise careful and skilled physicians are in regard to this subject of removing any substance which may interfere with and prevent the indicated remedy from getting into the circulation. Of such importance do I consider the subject that, with your permission, I will illustrate my point by relating two cases.

I was called, in consultation, to see a patient suffering from typhoid fever. The attending physician was a good prescriber. More than that, he usually used the medium or higher potencies. The patient's tongue and the mucous membrane of the mouth and throat were covered with a heavy black coating and were as dry as a chip. The teeth covered with sordes of the same character. We agreed in giving ars. 2 c. Imagine my surprise to see the doctor take from his

pocket case a small vial of No. 10 pellets medicated with the remedy and put eight of them on the patient's tongue and then make up ten powders of the same, one to be given every three hours. The doctor could not expect to get results from suggestion because the prostration of mind as well as body was so great that the patient was completely unconscious of what was going on around him, although very restless. He might as well have put his eight pills into the patient's hair. Thinking his work done, the doctor turned to me and said, "Any other suggestion before we go?" My reply was, "Have the nurse moisten and clean the man's mouth. Give him a few spoonfuls of clear water, then put ten drops of the ars. into a tablespoon of water and give it every three hours, always cleaning and moistening the mouth before giving."

Case No. 2.—A six-year-old boy with a stomachful of haws, after great suffering, went into convulsions. A doctor called, who gave nux v. 30th in water, a spoonful every half hour, and the patient left, probably, to die. The doctor was recalled and I called in consultation. A tablespoon of mustard water brought up a pint basin full of undigested haws. The nux after that had an opportunity to act, if it was needed, and the child was eating hard green apples the next day. I could cite many other cases showing the use of dirty spoons or glasses, also impure water, jelly and other things in which the remedy was given, but your own experience will make this unnecessary.

Dr. Banten of Waterloo, Iowa, used to tell about "preparing his patient for the remedy." In reply to an inquiry as to what he meant by "preparing a patient," the doctor said: "As the old Yankee farmer used to prepare his barn floor for threshing by removing everything and sweeping it thoroughly, so I give castor oil, Tarrant's aperient or hot water to cleanse the mucous membrane of the digestive tract before giving the indicated remedy."

Therefore, whether you think the drug will reach the seat of the trouble quicker through the mucous membrane of the nose, mouth, stomach, rectum, or through the absorbing glands of the skin, be sure and see to it that these media are put into the best working condition possible.

My second proposition is: The remedy should be administered in the most suitable potency. I am going to say but little on this proposition. The potency question always brings out an amount of useless talk in all associations, so it will be dismissed now with the statement that when the chemists ascertain which potency gives us the greatest number of free ions that will be the potency in which

to exhibit the remedy. Until that is done we can only give a few general directions, viz.:

1st. The metals should always be given in the 30th or higher.

2d. For chronic cases, use the higher potencies.

3d. Nervous, susceptible patients should never be given strong, crude drugs of the lower potencies.

The third proposition is: That after improvement has begun the dose should not be repeated so long as that improvement continues.

This would seem to make the question of repetition of dose a very easy one. Could we always be assured that the single dose would cause improvement, and that immediately, it would indeed be easy to formulate and apply a rule for the repetition of the dose. But—alas!—we are not infallible. We do not, in all cases, know positively that we have selected the indicated remedy. And again, all indicated remedies are not equally prompt in their action. This adds to our uncertainty as to whether we have the right remedy, and raises the following questions:

1st. Shall we change the remedy if we do not get improvement after giving one dose?

2d. If not, but on the other hand if we are going to repeat the dose, how frequently shall we repeat?

3d. In either case, how long are we to stick to a remedy in order to demonstrate whether or not it be indicated?

We would all say no to the first question provided we had carefully prescribed and nothing new had occurred to change the symptoms. I think this principle is clearly taught by Hahnemann, in the "Organon," and also by the experience of all present.

A rule which could serve as an answer to the second question would read something like this: Those drugs which, in the provings, produce symptoms in the shortest time must be repeated most frequently as remedies. A few exceptions to this rule would be such active poisons as mercurius cor., or nitric acid. This necessarily implies familiarity with the day-books of the provers. To illustrate my point, I will ask you to recall the provings of glonoine and lilium tig., as representatives of the two extremes.

Seconds are used to measure the time before glonoine produces symptoms and the effects disappear after a few hours, at most. On the other hand, hours are used in measuring the interval which elapses before lilium tig. produces symptoms, and some of these symptoms continue for weeks. So much for the rule as applied to

the provings. Now let me cite two cases to prove the applicability of the rule or the "working" part, if you please:

A physician came to me and said: "My mother suffers from headache. There is intense throbbing. There is fulness. The face is usually red, once in a while pale. The pulse is quick and full and every beat increases the pain in the head. Stooping and moving also aggravate. This dates back five years to getting overheated. Now, don't say glonoine, because I have tried it high and low, and the only result is a little alleviation for a few minutes after each dose, whether the remedy be given in the 6th or 200th." He had given it during the intervals between the attacks. In answer to my questions, he stated that two hours was the shortest period between the repetition of the dose. The attacks would last anywhere from eight to twenty-four hours. The suggestion to give a dose every half-hour, to begin with the first symptom, was acted upon. The result was that the duration and severity of the attack were much decreased while the intervening time was much increased till after about six months the cure was completed.

Another physician came with this group of symptoms: "The bearing down, a weight in the pelvis. Frequent desire to urinate. The hurried feeling and the pain and fluttering about the heart." I asked if he had given lilium tig. and he answered, with a good deal of warmth, "No, I tried lilium tig. years ago in several cases, but never received any benefit from it." When asked how long he had continued the remedy he replied, "In one case, four days." He promised to give a dose twice daily for four weeks and report. As the patient was his own unmarried daughter, I knew he would keep his promise. The result was a complete cure. To the objection which might be raised that such a rule would require much time and study of materia medica and make that already intricate study still more difficult, I would reply that in order to master and skilfully use our materia medica hard study is necessarily required, but that the additional work which this rule would involve is more apparent than real. One who, for the sake of remembering his symtomatology, is in the habit of grouping his remedies according to the conditions (diseases) for which they are most frequently indicated will find no great difficulty in classifying all remedies into two groups. Into the group which acts promptly he would put the gases, volatile oils and all compounds containing gases and oils, also acids and all those remedies which act directly upon the nervous system. For an example of each let us take chlorine, oil of almonds, prussic or carbolic acid and aconite. In the other group we

would put the metals, minerals and all the so-called tissue remedies. Examples, argentum met., calcaria carb. and sepia. The exceptions to such a classification would be few and could be easily remembered. The benefits derived from the knowledge and application of such a rule would be immeasurable.

In conclusion, I will say a word concerning what is commonly called adjuvant or auxiliary treatment. Students often ask whether it is Homœopathic to use external applications to assist the remedy. The reply is that the use of external applications has nothing whatever to do with Homœopathy. We know the effect of heat and cold. If we are giving a remedy to reduce congestion or inflammation and can hasten the process by the use of hot or cold water we are in duty bound to use it, not as Homœopathists, but as physicians. We should always bear in mind, however, that nothing should be used which is inimical to the remedy or that will mask or obscure our symptoms.

Discussion.

J. P. Rand, M.D.: *Ladies and Gentlemen*—Some one has said if a man wishes to do anything well he must believe that what he is doing is the most important thing in the world.

There is no place where this is more true than in the practise of medicine. If you desire to get the best results from a prescription, you must believe in it yourself. Study your case so carefully that, when you have decided upon a drug, you will believe it is a remedy, one, perhaps, upon whose effect the life of your patient depends. Confidence begets confidence, your efforts will inspire your patient with courage, and courage stimulates every vital function. In many cases, it matters not so much *what* you give as *how* you give it. Be positive—be definite. Never give slipshod directions as to time or dose. If a medicine is worth anything at all, it is worth directions to go with it. Faith, then, on the part of both physician and patient, is the first essential to successful prescribing.

In the second place be discreet. Do not injure your patient with overdosing. If you cannot satisfy yourself fully in the selection of a drug, lean towards the side of mercy and give a blank or minimum dose. Perhaps all your patient needs is rest; if so, rest is the indicated remedy. I do not object to so-called "high potencies" as placebos, and I truly think that they are safer in most hands than crude drugs, but I honestly doubt if they contain any medicinal virtue in themselves, or produce any effects which cannot be more rightfully ascribed to mental therapeutics.

But I must not bring up this skeleton, to which the essayist only alludes, of drug limitation. We have limitations enough about which there is no dispute. We think we know something of materia medica, but the old satire remains to a large extent true, that the practise of medicine consists of putting drugs of which we know

little into bodies of which we know less. To really *know* the action of a single drug, as Tennyson says of the flower in the crannied wall, "we must know what God is and what man is." There is not a physician living who fully understands one drug, much less does he know the entire materia medica. The very drug selected by the doctor as an illustration in his paper, lilium tig., was studied a few years ago by our materia medica friends in Boston and the provings of it were found so incongruous and contradictory that they were discarded in toto as having no scientific value whatever.

It may be that many of these provings are correct, but until they are verified further we cannot be at all sure of it. Intelligent drug proving is the key to their Homœopathic use. The indicated remedy will be most often found the *single remedy* which should be the ideal of every prescriber.

With the general propositions of the essayist I must heartily agree. Medicine should surely reach the affected part in the most direct manner, but I fail to understand, and he did not explain, his reason for the statement that the triturate tablet was neither accurate nor scientific. I am confident, as compared with many modes of drug administration, it is both. I know that in the preparations of various sugar and gelatin-coated pills the skill of the pharmacist has defeated the object of the physician. In other words, your medicine is so tied up in an impermeable coat that it takes hours for the patient to get any result from it whatever, if he does at all. For prompt effect, then, as the assayist has suggested, the medicine should be given in solution and for immediate effect directly into the circulation itself.

How shall we administer drugs? Just as the artist said he mixed his paints, *with brains,* if we have any. The question of Homœopathy has nothing to do with it. It all depends upon the case. The indicated remedy may be an emetic cathartic or an antiseptic douche. Whatever it is, let it be given earnestly and honestly, if possible singly and Homœopathically, and always, in the minimum dose and at the right time. For it is the time, dose, and proper application which make a worthless drug the priceless remedy.

Proving of Echinacea Augustifolia.

By J. C. Fahnestock, M.D.

It becomes my pleasant duty to place before the American Institute of Homœopathy a collection of provings of Echinacea angustifolia.

Four species of this genus are recognized. Two of them, E. dicksoni and E. dubia, are native in Mexico.

There are two native in this country, E. purpurea, mœnch. Leaves rough, often serrate; the lowest ovate, five nerved, veiny, long-petroled; the other ovate-lanceolate; involucre imbricated in three to five rows; stems smooth, or in one form rough—bristly as well as the leaves. Prairies and banks, from Western Pennsylvania and Virginia to Iowa, and southward; occasionally advancing eastward. July. Rays, fifteen to twenty; dull purple (rarely whitish), one or two feet long or more. Root thick, black, very pungent to the taste, used in popular medicine under the name of Black Sampson. Very variable, and probably connects with the E. angustifolia, described as follows: Leaves, as well as the slender, simple stem, bristly-hairy, lanceolate and linear lanceolate, attennate at base, three-nerved, entire; involucre less imbricated and heads often smaller; rays twelve to fifteen inches (two long), rose-color or red. Plains from Illinois and Wisconsin southward; June to August. This is a brief description of the botany of the plant under consideration.

Your chairman, T. L. Hazard, in his usual characteristic manner, went vigorously to work and secured all the provers possible. I was also fortunate enough to secure a number of provers, besides proving and re-proving it myself. The results of all of these provings were handed over to me, to present to you in such form as seemed best.

I must tarry just long enough to preface this collection and tell you that explicit printed directions were sent to all the superintendents of these provings. This being of too great length, I will

only give you the most important points in these directions, *viz.*, let each prover be furnished with a small blank book, in which shall be written date, name, sex, residence, height, weight, temperament, color of eyes, color of hair, complexion; describe former ailments and present physical condition. In concluding, give pulse in different positions, respiration, temperature, function of digestion, analysis of excretions, especially the urine; analysis of the blood, family history, habits, idiosyncrasy, etc.

The different colleges and universities were called upon to assist in these provings. The following institutions responded to the call: Cleveland, St. Louis, Minneapolis, the Chicago, Iowa City, and Ann Arbor. None of the Eastern institutions responded; don't know whether dead or just hibernating.

I wish to publicly express my thanks to all who have taken part in these provings. I think it but just to state that the University of Michigan furnished the best provings. Thanks, also, are extended to Boericke and Tafel for remedy furnished in the , 3×30×, which were used in the provings. One lady who commenced the provings and had begun to develop valuable provings, contracted a severe cold and stopped, for which I am very sorry. All the rest of the provers were males, medical students or physicians. Only a very few symptoms were produced by the use of the 30× attenuation, a greater number of the provers not recording any at all.

The symptoms here compiled were produced by the 3× attenuation and the tincture, using from one drop to thirty drops at a dose. In proving and then compiling the symptoms produced by this drug, I am fully aware of the many difficulties to be met with on every side.

The one great trouble that I find is that those who are unaccustomed to proving do not observe what really is going on, while attempting to make a proving, and are not capable of expressing the conditions so produced. I find that there are few who can take drugs and accurately define their effects. In selecting and discriminating the effects of drugs there must exist a mental superiority; and no man had this genius so highly developed as Hahnemann.

After making three different provings upon myself I have undertaken to select those symptoms which to the best of my ability were found in all of these different provings.

I have taken special care not to omit any symptoms, even though it may have been noticed by but one prover; but in the majority of cases you will notice the symptoms occurred two or more times in

different individuals, thus confirming the genuineness of the symptoms.

Not giving you the day-book records of these provers, a few remarks showing its general action may not be out of place. As stated before, only two recorded symptoms after the use of the 30× attenuation.

After taking the tincture there is soon produced a biting, tingling sensation of the tongue, lips and fauces, not very much unlike the sensation produced by aconite. In these provers there soon followed a sense of fear, with pain about the heart and accelerated pulse. In a short time there was noticed a dull pain in both temples, a pressing pain; then shooting pains, which followed the fifth pair of nerves.

The next symptom produced was an accumulation of sticky mucus in mouth and fauces. Then a general languor and weakness followed, always worse in the afternoon. All the limbs felt weak and indisposed to make any motion, and this was accompanied by sharp, shooting, shifting pains. In quite a number of cases the appetite was not affected.

Those using sufficient quantity of the tincture had loss of appetite, with belching of tasteless gas, weakness in the stomach, pain in the right hypochondriac region, accompanied with gas in the bowels; griping pains, followed by passing offensive flatus, or a loose yellowish stool, which always produced great exhaustion. After using the drug several days, the face becomes pale, the pulse very much lessened in frequency, and a general exhaustion follows like after a severe and long spell of sickness.

The tongue will then indicate slow digestion, accompanied with belching of tasteless gas. In most of the provers, however, there was a passing of a very offensive gas and offensive stools.

You will observe that the remedy exerts quite an effect on the kidneys and bladder, but I am very sorry to say that the urinary analysis made did not show anything but the variations generally observed in ordinary health.

I must say that the provers did not go into the details as much as was desirable. Likewise, I may say the same of the blood tests made, but what was given is very valuable.

I could give you an expression of its special action, but will merely give you the symptoms collected, and then you can make your own deductions.

ECHINACEA ANGUSTIFOLIA.

A collection of symptoms from twenty-five different provers anatomically arranged:

Mind.—Three, dulness in head, with cross, irritable feeling; 2, nervous, could not study; 3, confused feeling of the brain; 2, felt depressed and much out of sorts; 3, felt a mental depression in afternoons; 1, senses seem to be benumbed; 5, drowsy, could not read, drowsiness; 2, vertigo when changing position of head; 3, drowsy condition, with yawning; 2, becomes angry when corrected, does not wish to be contradicted.

Sensorium.—Five, general depression, with weakness; 8, general dulness and drowsiness; 4, general dulness, unable to apply the mind; 5, does not wish to think or study; 3, restless, wakes often in the night; 2, dull headache, felt as if brain was too large, with every beat of heart; 5, sleep full of dreams.

Inner Head.—Eight, dull pain in brain, full feeling; 5, frontal headache, especially over left eye, which was relieved in open air; 2, severe headache in vertex, better by rest in bed; 5, dull headache above eyes; 4, dull, throbbing headache, worse through temples; 3, head feels too large; 1, dull headache, worse in evening; 2, dull headache, worse in right temple, with sharp pain; 3, dull pain in occiput; 3, dull headache, with dizziness.

Outer Head.—Three, constant dull, pressing pain in both temples; 2, shooting pains through temples; 2, dull, occipital headache; 3, constant dull pain in temples, better at rest and pressure; 2, head feels as big as a windmill, with mental depression.

Eyes.—Two, eyes ache when reading; 1, tires me dreadfully to hold a book and read; 1, eyes pain on looking at an object, and will fill with tears, closing them relieves; 1, sleepy sensation in eyes, but cannot sleep; 1, pains back of right eye; 1, sense of heat in eyes when closing them; 2, dull pain in both eyes; 1, lacrimation from cold air; 2, sharp pain in eyes and temples.

Ear.—Two, shooting pain in right ear.

Nose.—Two, stuffiness of nostrils, with mucus in nares and pharynx; 4, full feeling in nose, as if it would close up; 2, full feeling of nose, obliged to blow nose, but does not relieve; 2, nostrils sore; 2, mucus discharge from right nostril; 2, rawness of right nostril, sensitive to cold, which causes a flow of mucus; 1, bleeding from right nostril; 1, right nostril sore when picking causes hemorrhage; 1, headache over eyes with sneezing.

Face.—Two, paleness of face when the headaches; 1, fine eruptions on forehead and cheeks; 2, vomiting, with pale face.

Teeth.—Two, darting pains in the teeth, worse on right side; 3, neuralgic pains in superior and inferior maxilla; 2, dull aching of the teeth.

Tongue.—Two, white coating of tongue in the mornings, with white, frothy mucus in mouth; 2, slight burning of tongue; 2, whitish coating of tongue, with red edges.

Mouth.—Two, accumulation of sticky, white mucus; 3, eructation of tasteless gas; 2, burning of the tongue, with increased saliva; 1, dry sensation in the back part of mouth; 2, burning, peppery taste when taking remedy; 3, bad taste in the mouth in the morning; 3, a metallic taste; 3, belching of gas, which tastes of the food eaten; 2, dryness of the mouth; 3, sour eructation; 1, sour eructation, which caused burning of throat.

Throat.—Three, accumulation of mucus in throat; 1, mucus in throat, with raw sensation; 1, after vomiting of sour mucus, throat burns; 2, soreness of throat, worse on left side.

Desire.—Five, loss of appetite; 2, desire for cold water.

Eating.—Three, nausea, could not eat; 5, loss of appetite.

Nausea and Vomiting.—Two, nausea before going to bed, which was always better lying down; 2, after eating, stomach and abdomen fill with gas; 3, after eating, belching, which tastes of food eaten; 2, nausea, with eructation of gas.

Stomach.—One, stomach distended with gas, not relieved by belching; 4, belching of tasteless gas; 2, sense of something large and hard in stomach; 2, belching of gas and at some time passing flatus; 3, sour stomach, "heart burn," with belching of gas; 1, relaxed feeling of the stomach; 1, pain in stomach, going down through bowels, followed by diarrhea; 3, dull pain in stomach.

Hypochondria.—Five, pain in right hypochondria.

Abdomen.—Five, full feeling in abdomen, with borborygmus; 2, pain about umbilicus, relieved by bending double; 2, pain in abdomen, sharp cutting, coming and going suddenly; 1, pain in left iliac fossa.

Urine.—Six, desire for frequent urination; 4, urine increased; 1, involuntary urination "in spite of myself"; 2, sense of heat while passing urine; 3, urine pale and copious; 1, urine scanty and dark in color; 2, pain and burning on urination.

Male Sex Organ.—One, soreness in perineum; 2, testicles drawn up and sore; 1, pain in meatus while urinating; 2, pain across perineum; 2, perineum seems stretched; 1, pain in right spermatic cord.

Female Sex Organ.—One, mucus from vagina in evening; 1, pain in right iliac region, which seems deep, lasting but a short time.

Larnyx.—Two, irritation of larynx; 1, voice husky.

Cough.—Two, constant clearing of mucus from throat; 2, mucus comes in throat while in bed, must cough to clear throat.

Lungs.—Two, full feeling in upper part of lungs; 2, pain in region of diaphragm; 1, pain in right lung.

Heart and Pulse.—Two, slight pain over heart; 1, rapid beating of heart; 4, heart's action increased; 2, heart's action decreased; 2, anxiety about the heart.

Chest.—Two, pain in pectoral muscles; 1, sore feeling in the chest; 1, feels like a lump in chest; 2, feeling of a lump under sternum.

Neck and Back.—Three, pain in small of back, over kidneys; 6, dull pain in small of back; 3, pain in back of neck; 4, pain in back in lumbar region, worse from stooping.

Upper Limbs.—Three, pain in right thumb; 2, sharp pain in left elbow; 2, pain in right shoulder, going down to fingers; 2, sharp pain in left arm, going down to fingers, with loss of muscular power; 2, cold hands; 4, pain in wrists and fingers; 2, pain in left shoulder, better by rest and warmth.

Lower Limbs.—Two, cold feet; 2, pain back of left knee; 2, sharp, shooting pain in legs; 1, extremities cold; 3, left hip and knee pains; 2, pain in right thigh; 2, pain in right leg.

Limbs in General.—Seven, general weakness of limbs; 1, pain between shoulders, which extends to axilla and down the arms.

Position.—Pains and sickness of stomach, better by lying down.

Nerves.—Seven, exhausted, tired feeling; 5, muscular weakness; 2, "felt as if I had been sick a long time"; 6, general aching all over with exhaustion.

Sleep.—Two, general languor, sleepy; 3, sleep disturbed, wakes often; 5, sleep full of dreams; 1, dreams about exciting things all night; 2, dreams of dead relations.

Time.—Worse after eating; worse in evenings; worse after physical or mental labor; better at rest.

Chills.—One, chills up the back; 1, cold flashes all over the back; 2, general chilliness, with nausea.

Skin.—Three, intense itching and burning of skin on neck; 1, little papules on skin, with redness, feeling like nettles (this occurred on the fifth day of the proving); 1, skin dry; 2, small red pimples on neck and face.

Blood.—Two, after proving found a diminution of red corpuscles.

Discussion.

Eldridge C. Price, M.D.: I must confess to an admiration for the energy and perseverance of one who can secure twenty-five persons to subject themselves to experiments, the results of which belong in the realms of the unknown (and must, therefore, be regarded with more or less apprehension), even though he may have been assisted in his endeavors by all the medical colleges in our country excepting those that died during the great blizzard, or merely conservatively hibernated, while others were up and doing.

I would say, as a commentary upon the very active part taken by the ex-professor of materia medica in the Southern Homœopathic Medical College in this work of proving echinacea, that during more than two months of the working season he was almost entirely *hors de combat,* because of the attentions of la belle grippe. After recovering sufficiently, he at once set about selecting provers from his class. Because of sickness, hard work, disinclination, and other obstacles, he finally was so fortunate as to secure one victim. This gentleman submitted to the requirements of the test, but after spending several months in drinking the thirtieth decimal, the third decimal, and the tincture (of which latter he attained dram doses), he finally reported no modification of health whatever from any or all of the preparations. This gentleman spent much valuable time in accomplishing nothing, when he might just as well have been pleasantly hibernating with his brothers in our sister institutions of the antiquated East.

To my mind these tests assist in corroborating the view that is gradually meeting with extending acceptance, that many of the alleged records of pathogenetic drug effects are merely symptoms of the normal status of the experimenter, and not drug symptoms at all. This fact is emphasized in the work done in attempting to prove this drug, in that so large a number of experimenters could discover no evidences of drug effects from the doses administered, after having made a careful health record.

On the other hand, all men and women are not qualified either by nature or education, to observe symptoms and conditions, either in themselves or in others. As Dr. Fahnestock says: "I find that there are few who can take drugs, and accurately define their effects. In selecting and discriminating the effects of drugs, there must exist mental superiority; and no man had this genius so highly developed as Hahnemann." Not only did Hahnemann possess this faculty of observation in a superior degree, and recognize its necessity in drug experimentation, but its necessity has been realized by others since his day, from actual experience. As Dr. Conrad Wesselhoeft expressed the idea at the Materia Medica Conference, at Detroit, in 1896: "To find an adept at proving would be like finding a great painter, a great violin-player, or a pianist; they are very rare."

Between these two classes of experimenters, *i. e.,* those who have

some working knowledge of how to observe drug effects, and yet note few or no symptoms, and those who know nothing of observing such effects, and who have reported no symptoms, we are surprised that so many details have been secured, and are, consequently, inclined to doubt whether they are really effects of the drug.

Dr. Fahnestock tells us that all the symptoms included in this record are from the third decimal and the tincture, excepting in the case of two provers; but unfortunately he does not distinguish these high-dilution symptoms from the others. They may be valuable, but I have doubts. In fact, so few persons have ever experienced pathogenetic results from so high a dilution as the thirtieth, whether centesimal or decimal, that this record really has the effect of corroborating the apparent fact that has gradually gained more and more general recognition since the organization of the Materia Medica Conference in 1895, that in proving drugs it is most probably an unqualified waste of time to attempt pathogenetic experiments with so high a dilution as the thirtieth decimal.

Excepting the few assumed effects from the thirtieth decimal dilution, we have here a collection of symptoms of the third decimal and the tincture. These symptoms are in no way differentiated, and we consequently have no idea which are from the dilution and which from the tincture. But suppose these two sets of symptoms were distinguished from each other, of what would that avail us, since we are not told which of them in either set are primary and which are secondary effects?

On the other hand, the question may be asked, What difference does it make whether a symptom is a primary effect or a secondary effect? Is there any difference to the Homœopathic prescriber, so long as he knows the symptom is the result of drug-action? Yes, I think there is a *great* difference.

In entering the field of primary and secondary action of drugs, I am trenching upon the preserves of Dr. Duncan, who will tell us all about this question to-morrow; but I will merely state briefly my views, with an apology to Dr. Duncan for my trespasses.

Concisely, and at the risk of being considered dogmatic, I will couch my views as follows:

1st.—Drugs do not act. The symptoms and conditions generally that we observe following the administration of a drug are due to the effort of the organism to protect itself against the intruder, by expulsion or in some way we do not understand. The only agents introduced into an animal organism that really act are either chemical agents or some of the bacterial forms of life. From these, however, dynamic results, as understood from a pathogenetic standpoint, are not produced.

2nd.—The so-called primary symptoms of drugs are due to the first or protective effort of the organism. The so-called secondary drug symptoms are due to the relaxation following effort, and consequently cannot be considered of as much significance as are the primary manifestations.

3rd.—Another point is that different dilutions of the same drug substance cause different primary symptoms. The tincture primary

symptoms and the sixth decimal primary symptoms are not by any means the same, but sometimes they are exactly opposite, and the primary symptoms of the tincture may be the secondary symptoms of the sixth decimal, and vice versa.

4th.—As to how to distinguish between primary and secondary symptoms, I would say that all symptoms that are consistent and congruent with the first symptom that makes its appearance after the drug is administered are primary symptoms. On the other hand, secondary symptoms are those that are opposite in character to the primary symptoms, and have a certain congruence amongst themselves, which marks them as having a tendency in an opposite direction from the primary symptoms.

5th.—Because of this opposite tendency of direction of these two classes of symptoms, it is necessary in studying drug pathogenesy that they should not be mixed in one group, but should be separated, otherwise it will be impossible to obtain a clear idea of how a drug will influence a healthy organism; and the prescriber must be sure of this before he can make either a good Homœopathic or a good antipathic prescription. In the case of the proving of echinacea, now under discussion, it will be very difficult to base a demonstrable *a priori* Homœopathic prescription upon the symptomatology given us, because of this mixture of primary and secondary effects. Furthermore, the difficulty is increased by the mixture of symptoms from two different preparations of the drug, the tincture and the third decimal, to say nothing of the supposed few details from the thirtieth decimal.

I am expressing no censure, but simply calling attention to the way in which our provings are usually compiled; this proving of echinacea being but an illustration of the combination of different dilutions together with their primary and secondary symptoms. In fact, for some reason, there is less contradiction of details than is generally the case. We do find recorded without explanation as to whether they are due to tincture or third decimal, or whether they are primary or secondary, such symptoms as these: "Urine, pale and copious;" "Urine, scanty and dark in color;" also, "Heart's action increased," and "Heart's action decreased." Such contradictions, however, are rare in this proving. Of course, the suggestion to be drawn from this is, that the symptoms in the main are either all primary or all secondary; but which?

In conclusion, I have to suggest that the praiseworthy compiler of these experimental details be requested by the American Institute of Homœopathy to rearrange this symptomatology of echinacea angustifolia into three groups; first, those symptoms due to the tincture, second, those due to the third decimal, and third, those due to the thirtieth decimal, respectively, and in each instance the primary and secondary symptoms to be divided into separate groups under the preparation of the drug to which they are due. When this is done, the proving of echinacea may be regarded as more or less a model proving, for the guidance of future experimenters.

In the past generation or two, there has apparently been a tendency to the "dry rot" of self-satisfaction among our practitioners;

they have evidenced a belief that the *ne plus ultra* of results has been reached in drug pathegenetic work, when, in point of fact, we have not even yet learned how to properly and fully extract pathogenetic knowledge from drugs. One of the greatest stumbling blocks in the way of progress in drug pathogenesy, was the attitude towards each other of the accepted leaders in work of this character. They could not work together, because each believed the other was a knave, a fool, or at least wrong in all he did, said, or thought. The conferences of workers and thinkers in materia medica, which have been held in the past few years, have done more to create a spirit of tolerance in the minds of even the most bigoted, and shown the more liberal-minded the possibility and the necessity of agreeing on vital points, and holding unessentials in abeyance, and have laid the foundation for progress in the lines indicated by modern methods of science, which nothing else has succeeded in doing. We are now in condition to do better work than ever before; we are in condition to understand the hints and commands of the great spirit of scientific research as never before, because we have agreed that bigotry and self-opinionation are not progressive, and that the only way to real progress is through the doors of science; not the pseudo-science of unbalanced canters, but the science which covers with her mantle of charity all honest men who are trying to find demonstrable truth, and who, though they may not attain the acme of success, yet are ever struggling to do the best they know.

E. M. Howard, M.D.: I am here to make an explanation for one of the Eastern colleges, which has been apparently hibernating. I do not offer any apologies, for I do not think they require it under the circumstances, but we do want to offer an explanation. It is that we in Philadelphia have aimed, perhaps, too high. We have aimed so high that we did not do anything; but I want to say to you that we have aimed at something. We in Philadelphia have had the opinion for some time that the only way in these modern days of proving drugs is to surround those proving with every scientific test that was possible. I believe that thus and thus alone we can make a proving that will stand the test of time. On that account we have started out in Philadelphia to secure a prover and then have that prover (and not take his own statement and condition of health alone, but have that prover examined by a specialist in every direction so that we may have an accurate record of the physical condition of that man, or that woman, before the proving is commenced). And then it has been our idea that, after the drug has been taken and symptoms have been produced, that the prover shall be subjected to the same examination for every organ that is affected by the drug. Now, we have had difficulty in Philadelphia in obtaining provers that can take the time to undergo such tests. We have not succeeded in aiding the Institute in that work. We do not offer that as an apology. We ought to have done better. We offer it as an explanation for having been hibernating.

It is of value to do as has been done here, in this proving, but it lacks the value it might have had, had it been surrounded by these

tests, as it should have been. I am not competent to discuss this paper as Dr. Price has done, to analyze its symptoms. It came into my hands too late, at any rate. But I want to emphasize the necessity, in some way, of securing a permanent fund which shall continue such provings. I am satisfied from this and other attempts that the Homœopathic School will never get anywhere in drug-proving until it shall have raised a fund of money sufficient to hire and pay well these provers, who are to be secured, and pay salaries to capable men to devote their time to the observation of such provings. It seems to me that the time is ripe for the formation of such a college of provers, and it is to that end that I criticize this proving. We have to-day brought this matter before the American Institute of Homœopathy, and believe this body is competent to raise a sufficient financial fund to carry on drug-proving to some purpose; and I am satisfied that until that is done, our drug-provings are going to linger along in the same old way.

A. C. Cowperthwaite, M.D.: The doctor who has conducted these provings has done some very excellent preliminary work to the great scientific methods which are soon to come upon us. I cannot understand why it is that the symptoms we have recorded here, as given by Dr. Fahnestock, are not just as reliable as if they had been preceded and ended by these very scientific manipulations. The remedies of our materia medica, which have given us so many valuable symptoms, have not been proved in that sort of way. I know that I am, perhaps, a little old-fogy on the subject, but I believe that the proving we have had to-day of echinacea will be of great service to us. I recognize some peculiarities that lead me to think that the drug is very similar in some respects to aconite and gelsemium, and at the same time it presents some similarities to baptisia. It thus occupies a unique position and promises to be of service in a field not now covered by any other remedy. I have made eleven provings, and out of the whole number I did not get eleven symptoms, but to-day I myself obtained a very decided symptom from one dose. Perhaps it was because the drug was administered by Dr. Fahnestock, and I knew what was coming. Reference has been made here to those who have special adaptability for proving drugs—that they must be of a highly sensitive temperament, and possessed of peculiar sensibility to drug-impression, of which Hahnemann, as has been said here, was a remarkable illustration. This may refer to one who is able to imagine a symptom and have it not. No doubt there are many symptoms now recorded in our materia medica that originated in this manner, and are, therefore, unreliable. If we adopt this method it will, of course, be easy to obtain symptoms not only from echinacea, but also from many other drugs that, under more severe tests, fail to respond. What we need is careful, honest provings, made by intelligent provers. Scientific procedures, so-called, are of much less importance.

T. C. Duncan, M.D.: In 1866 I was Secretary of a Provers' Association, and have been interested in proving drugs and the study

of drug action ever since—more recently in the therapeutic application of the secondary effects of drugs. I was very much interested in the report of Dr. Fahnestock, and he deserves great credit for the work accomplished. In looking over the résumé of proving, I find that in the outline of the action of echinacea, is a biting, tingling sensation, a surprise to the system. This is followed by rapid circulation and fullness of the head. This central cerebral hyperemia is also attended by spinal hyperemia, with their attendant pain, myalgia and weakness, mental and physical. That is the primary effect and, as Hahnemann points out, must have a counter-effect, which the expert can fill out, even if they are not brought out in the provings. This hyperemia, like the hyperemia from work, must be followed by sleep and rest. The profuse saliva, the loose bowels, and open vesical sphincter, as well as rest is Nature's method of relief. The pale face, slow pulse and exhaustion are secondary symptoms, and may prove diagnostic in a therapeutic way. It is among the secondary effects, I am of the opinion, we must select the therapeutic guiding symptoms. Possibly the pale face, sluggish circulation, lack of appetite, depression and weakness will be the symptoms that echinacea will cure. These symptoms are not bilious, for the tongue is white, showing a nervous weakness.

The day-books of provers will doubtless throw much more light on the course of action of the drug in the different temperaments, and also show the later secondary or restorative symptoms, so that it can be discovered what the therapeutic range of this remedy may be. It will doubtless prove a valuable addition to our list of medicines.

W. A. Dewey, M.D.: I have not anything to say particularly beyond what has already been said about this proving, but I wish to emphasize one statement of Dr. Howard, and that is it is always impossible for medical colleges, as they are now situated, to prove drugs. We speak of the surrounding of the proving of drugs by a scientific fence. That is all right in a certain way, but no college can get provers from its classes of students who will have time to do that; and I think the millennium will have arrived when there is a fund set aside for such use. I can see the desirability of a college of provers, with a corps of workers, liberally paid, until which time we shall have to go along as we have been doing, which, indeed, has not been without value.

Chas. Mohr, M.D.: I have no hesitancy in saying that we ought to aim high, and, therefore, I am in hearty accord with Dr. Howard in stating that I believe all drug effects ought to be surrounded by every possible safeguard, so as to prevent symptoms which are not traceable to a drug being incorporated in a pathogenesis. But I realize the fact that it is almost impossible to get any considerable number of provers who will do this or any considerable number of men who will take the pains and time to make the scientific researches, and therefore, for a time at least, we must be satisfied with having provings made in the old way. That is, taking an individual and, after noting his normal status, give him a drug and watch the

effects; and then supplement that work with the more scientific method, in order to determine if it is possible to get legitimate drug-effects by administering a drug to a healthy man or woman, as has been customarily done.

In regard to this special drug echinacea, I have made several attempts to elicit drug effects. I have a record of some of the provings which I have made. I will not take the time to present the symptoms, but I will say in short that in two male provers whom I know all about, who took the thirtieth first, as directed by the party attempting the proving, without any effects whatever. In one individual, who presented quite a number of symptoms, a repetition of the dose a week later failed to produce any effect. That man also took the third, and as much as twenty-five drops of the tincture without producing any symptoms whatever; so that, from personal observations thus far made I cannot say that echinacea produces symptoms of any value. Further experiments may change my views.

C. B. GILBERT, M.D.: I want to say a word about the results of the thirtieth decimal. As I remember, only two symptoms were reported as a result of that preparation—symptoms of the heart and of the eyes. There is a distinction between effects of the tincture and the potencies, as I have observed. The higher the potency, the more interior the action; in this case upon the heart and eyes, a dilution does not produce the coarse symptoms, but the finer symptoms of the vital centers; the thirtieth decimal responds to the same rule in that it does not produce the coarse symptoms of the tincture, but the finer symptoms upon which may be based the best prescriptions.

H. W. PIERSON, M. D.: The purpose of all of our drug-provings is simply that we find a means that may be employed in accord with a law for the healing of the sick; and nine cases out of every ten that comes to the physician for treatment brings functional symptoms, and we must find a remedy capable of producing the same or similar effects under similar circumstances. In fact, when we come to make these provings we should subject the prover to all possible contingencies in order that the new drug-disease produced by them shall possess marks of similarity with natural diseases. There is where I feel the mistake is made by so many of our provers. Having that in view, I feel that instead of that scientific expert testimony or evidence we should make a record of our individual provers in the same way and take our patients into our room and study them. We have, for instance, a provers' union in Chicago. They make a record of their own case for one week. For the next four weeks they take *sacrum lactis*, supposing it to be the remedy to be proven. Following the use of the *sacrum lactis*, they go on to the remedies at a time when they know nothing about it. They bring their record to my office each week, as though they were bona fide patients, and I so regulate the potency of the drug as to bring out the peculiarities of the individual prover. At the same time each prover is subjected to such tests as will determine the effects of different modalities.

We begin with the 200th potency and work down until we find the amount necessary to bring about the desired result.

TIMOTHY F. ALLEN, M.D.: Concerning echinacea, the plant itself is somewhat in doubt. I have collected it in Nebraska and in Dakota; riding about six hundred miles I saw three specimens. I mention that to show that it is not a very common plant. Echinacea angust. I did not see once in Dakota. It is not very common in that region. The drug has come to us from the eclectic school. An eclectic physician told me in New York last year that he considered it a specific for diphtheria and for the nose and throat, that he was in the habit of using it in all cases, all of which I swallowed and made note of.

If you will examine this echinacea you will see that it belongs to the daisy family, and black-eyed Susan. It has never been examined pharmacologically. The composites are all to be taken with a great deal of suspicion as to their properties. The golden-rods are supposed to have some effect upon the urine, but no very violent symptoms. It has about as violent symptoms as any we know about, but I have always had my doubts about echinacea.

WILSON A. SMITH, M.D.: There is one way you can tell true echinacea angustifolia and that is by taking the root and making a smooth cut, transversely across it, when you will notice little dark spots near the outer edge or, rather, a small dark ring. It is supposed that from this peculiar colored ring comes the active principle. The samples shown here do not impress me as all being genuine echinacea angustifolia. I take this specimen and cut through it and do not find the dark ring, or circle, and should judge it to be echinacea purpurea, or the purple cone-flower. Here is another specimen, which shows the dark ring when cut through, and this root is from echinacea angustifolia. "Gray's Botany" gives a very complete description of the two varieties. The echinacea pur. is native in the banks and prairies from Western Pennsylvania and Ohio and southward and westward, while echinacea a. is found in the plains of Illinois and westward. It is quite a common plant, known to the people as "nigger-head."

F. W. HAMLIN, M.D.: I do not wish to talk about the proving, but I wish to speak about the action of the drug in disease. I had some experience in suppuration process. About two years ago I had a very badly lacerated perineum, which was very nicely sutured by an experienced surgeon with properly prepared silk sutures, and when, to my great surprise, on the third day the perineum came out, and it began to suppurate and present a bad appearance, I prepared a lotion of echinacea tincture, using one part tincture to two of water, and also gave the patient echinacea, a teaspoonful to half a glass of water internally. The suppuration stopped in two days completely. A healthy action was set up, and in one week's time the perineum was completely healed.

J. C. FAHNESTOCK, M.D.: I can say very little, in closing this discussion, on the scientific proving of remedies. I will say that my provers were examined (possibly I cannot examine them like a specialist). I examined their eyes, ears and urine for ten days, making a chemical examination, and I observed all these symptoms, and I believe a few of them are correct. I know it is a deep-acting remedy. I know they were not symptoms that I imagined for I am not of the imaginative kind.

In reference to Dr. Price's prover, I am afraid there is not a member in this room, if I gave him two drops, but will have symptoms. He will have that cooling sensation from three drops, and, by drinking it for weeks and weeks, he could not tell whether he had symptoms or not.

In reference to aiming high, I certainly think it is right to aim high, but he should give us two or three symptoms.

In reference to scientific provings, certainly we are all willing and wish to have scientific provings, and have every detail possible, but if you have a number of provers and get symptoms that they have never had before, they surely must be genuine symptoms, and I can vouch for nearly all of the symptoms I have given here, and nearly all have been from the tincture, very few from the third attenuation, nearly all from the tincture, and it is a remedy evidently of a very deep action in its nature. I have my own prover and he was away from me for eight months, and during that eight months he had rapid action of the heart all the time. He has, at the same time, developed varicocele, which he never had before and never had any cause to produce it.

In reference to paying a salary for provers, I am afraid a salaried man would give symptoms that another man possibly would not give.

REPORT

OF THE

Committee on Organization, Registration, and Statistics.

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HOMŒOPATHIC ORGANIZATIONS AND INSTITUTIONS IN THE UNITED STATES.

By Thos. Franklin Smith, M.D., New York, N. Y.

National Societies.

American Institute of Homœopathy. Organized 1844. Not incorporated. Annual meeting was held in Atlantic City, N. J., from June 20 to 24, 1899. President, Benjamin F. Bailey, M.D., Lincoln, Neb.; Secretary, Eugene H. Porter, M.D., 181 West Seventy-third Street, New York, N. Y. Members, 1900; admitted last year, 212; died last year, 35. Annual dues, $5.00. Publishes its "Transactions."

International Hahnemann Association. Organized 1880. Not incorporated. Annual meeting was held in Niagara Falls, N. Y., June 27 to 29, 1899. President, Walter M. James, M.D., 1231 Locust Street, Philadelphia, Pa.; Secretary, Erastus E. Case, M.D., 109 Ann Street, Hartford, Conn. Number of members, 115; admitted last year, 9; died last year, 1. Annual dues, $5.00. Publishes itts "Transactions."

American Ophthalmological and Laryngological Society. Organized 1897. Not incorporated. Annual meeting was held at Atlantic City, N. J., June 19 to 20, 1899. President, Elmer J. Bissell, M.D., 75 South Fitzhugh Street, Rochester, N. Y.; Secretary, Herbert D. Schenck, M.D., 241 McDonough Street, Brooklyn, N. Y. Number of members, 134; admitted last year, 14. Annual dues, $3.00. Publishes its "Transactions." Delegate, Arthur B. Norton, M.D.

American Obstetrical Society. Organized 1885. Incorporated 1885. Has held no meeting for five years. President, John Nicholas Mitchell, M.D., 1,505 Spruce Street, Philadelphia, Pa.; Secretary, George W. Winterburn, M.D., 44 Bradhurst Avenue, New York, N.Y. Number of members, 119. Annual dues, $5.00.

Amercian Association of Orificial Surgeons. Organized 1887. Incorporated 1887. Annual meeting was held in Chicago, Ill., September 6 and 7, 1899. President, J. W. Means, M.D., Troy, Ohio; Secretary, F. E. Young, M.D., Canton, Ohio. Number of members, 300. Annual dues, $2.00. All the papers read at the meeting are published in the *Journal of Orificial Surgery*.

National Association of Medical Examiners. Organized 1891. Not incorporated. Annual meeting was held in Atlantic City, N. J., at the same time as the American Institute. President, Albert R. Wright, M.D., 414 Elmwood Avenue, Buffalo, N. Y.; Secretary, Horace M. Paine, M.D., West Newton, Mass. Number of members, 100. Annual dues, $1.00.

National Association of Superintendents and Managers of Homœopathic Hospitals for the Insane. Organized 1894. Not incorporated. Annual meeting was held in Atlantic City, N. J., at the same time as the American Institute. President, Alonzo P. Williamson, M.D., 502 Nicollet Avenue, Minneapolis, Minn.; Secretary, Horace M. Paine, M.D., West Newton, Mass. Number of members, 100. Annual dues, $1.00. Delegate, Horace M. Paine, M.D.

Society of Homœopathicians. Report refused by the Secretary.

Surgical and Gynæcological Association of the American Institute of Homœopathy. Organized 1899. Not incorporated. Annual meeting is to be held at the same place and immediately preceding that of the American Institute. President, William B. Van Lennep, M.D., 1421 Spruce Street, Philadelphia, Pa.; Secretary, George W. Roberts, M.D., "The Strathmore," Broadway and Fifty-second Street, New York, N. Y.

Sectional or Interstate Societies.

Missouri Valley Medical Association. Organized 1894. Not incorporated. Annual meeting was held in St. Joseph, Mo., September, 1899. President, L. C. McElwee, M.D., 215 South Jefferson Avenue, St. Louis, Mo.; Secretary, A. M. Linn, M.D., 605 Walnut Street, Des Moines, Iowa. Number of members, 100. Annual dues, $2.00. Delegate, A. M. Linn, M.D.

Southern Homœopathic Medical Association. Organized 1885. Not incorporated. Annual meeting is held at different cities in the South, in October. President, Asa N. Ballard, M.D., 2020 Third Avenue, Birmingham, Ala.; Secretary, Frances McMillan, M.D., Jackson Building, Nashville, Tenn. Number of members, 80; died last year, 3. Annual dues, $3.00. Delegate, Lizzie Gray Gutherz, M.D.

State Societies.

Alabama Homœopathic Medical Association. Organized 1890. Incorporated 1890. Annual meeting is held in different places, generally Birmingham, in November. President, Alfred M. Duffield, M.D., 307 Clinton Street, Huntsville, Ala.; Secretary, Asa N. Ballard, M.D., 2020 Third Avenue, Birmingham, Ala. Number of members, 12. Annual dues, $3.00. Delegate, Alfred M. Duffield, M.D.

California State Homœopathic Medical Society. Organized 1877. Incorporated 1877. Annual meeting is held in different parts of the State each year, on the second Wednesday in May. President, James W. Ward, M.D., Patton, Cal.; Secretary, Eleanor F. Martin, M.D., 606 Sutter Street, San Francisco, Cal. Number of members, 135; died last year, 13. Annual dues, $2.00. Delegates, E. V. Van Norman, M.D., William Boericke, M.D.

Homœopathic Medical Society of the State of Colorado. Organized 1881. Not incorporated. Annual meeting is held in Denver, on the second Tuesday in May. President, Genevive Tucker, M.D., Pueblo, Col.; Secretary Chauncey E. Tennant, M.D., 2061 Curtis Street, Denver, Col. Number of members, 44; admitted last year, 5. Annual dues, $2.00. Publishes its "Transactions." Delegates, N. G. Burnham, M.D., D. A. Strickler, M.D. "With each year the Society grows stronger, and the unanimity of action on the part of the members has made it possible to accomplish much for Homœo-

pathy in this State. The coming session not only promises to be the same, but bids fair to be a record breaker."

Connecticut Homœopathic Medical Society. Organized 1851. Incorporated 1864. Annual meeting is held on the third Tuesday in May, in Hartford and New Haven, alternately. The semi-annual meeting is held in different places, on the third Tuesday in October. President, Edward S. Smith, M.D., Bridgeport, Conn.; Secretary, Hills Cole, M.D., 926 Main Street, Hartford, Conn. Number of members, 93; admitted last year, 9; died last year, 1. Publishes its "Transactions." Delegates, H. P. Cole, M.D., Clitus S. Hoag, M.D., Benjamin H. Cheney, M.D., Emily V. D. Pardee, M.D., Charles H. Colgrove, M.D.

Medical Society of Delaware and the Peninsula. No report.

Illinois Homœopathic Medical Association. Organized 1855. Incorporated 1865. Annual meeting is held in Chicago and some other city, alternately, on the second Tuesday in May. The semi-annual meeting is held in Chicago, on the second Tuesday in November. President, George F. Shears, M.D., 3130 Indiana Avenue, Chicago, Ill.; Secretary, Edgar J. George, M.D., 31 Washington Street, Chicago, Ill. Number of members, 294; admitted last year, 37. Annual dues, $2.00.

Indiana Institute of Homœopathy. Organized 1867. Incorporated 1867. Annual meeting is held in Indianapolis, on the second Wednesday in May. President, H. N. Coons, M.D., Lebanon, Ind.; Secretary, A. W. Holcombe, M.D., Kokomo, Ind. Number of members admitted last year, 5. Annual dues, $2.00. Delegates, Sollis Runnels, M.D., S. Harrell, M.D., O. S. Runnels, M.D., J. D. George, M.D.

Hahnemann Medical Association of Iowa. Organized 1870. Incorporated 1873. The annual meeting is held alternately in Des Moines and Sioux City, on the second Tuesday in May. President, A. M. Linn, M.D., Des Moines, Iowa; Secretary, R. E. Ames, M.D., Rolfe, Iowa. Number of members, 182; admitted last year, 23; died last year, 3. Annual dues, $2.00.

Homœopathic Medical Society of the State of Kansas. Organized 1869. Incorporated 1870. The annual meeting is held in Topeka, on the first Wednesday in May. President, W. B. Swan, M.D., Topeka, Kan.; Secretary, W. E. Buck, M.D., Kingman, Kan. Number of members, 63. Annual dues, $1.00. Delegate, William A. Forster, M.D.

Kentucky State Homœopathic Medical Society. Organized 1866. Incorporated 1886. The annual meeting is held in different places in the State each year, on the second Tuesday in May. President, H. S. Keller, M.D., Frankfort, Ky.; Secretary, H. E. Griffith, M.D., Henderson, Ky. Number of members, 63; admitted last year, 4. Annual dues, $2.00. Delegate, Allison A. Clokey, M.D. "The prospects are very flattering for a much larger attendance at the annual meeting, and we feel that the interest in Homœopathy is growing in our State."

Hahnemann Medical Association of Louisiana. Organized 1882. Not incorporated. The annual meeting is held in New Orleans, in January. President, C. J. Lopez, M.D., 828 Canal Street, New Orleans, La.; Secretary, Charles R. Mayer, M.D., 1032 South Charles Avenue, New Orleans, La. Number of members, 16. Annual dues, $3.00. Delegate, Charles R. Mayer, M.D., J. G. Aiken, M.D.

Maine Homœopathic Medical Society. Organized 1867. Incorporated 1867. The annual meeting is held in different cities in the State, on the first Tuesday in June. President, M. S. Holmes, M.D., Oakland, Me.; Secretary, Cora M. Johnson, M.D., Showhegan, Me. Number of members, 63; admitted last year, 5; died last year, 1. Annual dues, $1.00. Publishes its "Transactions." Delegates, Nancy T. Williams, M.D., L. A. Stewart, M.D.

Maryland Homœopathic Medical Society. Organized 1875. Incorporated 1875. The annual meeting is held in Baltimore, on the third Tuesday in May. President, William R. Andrews, M.D., Rockville, Md.; Secretary, William Dulaney Thomas, M.D., 633 Carrollton Avenue, Baltimore, Md. Number of members, 62; admitted last year, 5. Annual dues, $2.00. Publishes its "Transactions." "The Maryland State Homœopathic Medical Society can conscientiously report itself in a flourishing condition. More activity and life has been shown the past two or three years than has ever been in its history. The subject of 'Midwifery Abuse' has been under consideration, and a circular has been addressed to the President of each Homœopathic Medical Society in the United States, urging simultaneous consideration by all of our Societies during the year 1899, and that each Society should make an effort to secure the enactment of a Midwifery Law by the Legislature of its State. The Society, through its Secretary, has, with the aid of other organizations and persons, succeeded in obtaining a thorough improvement in the sanitary condition of the public schools of Baltimore, which were, indeed, in a shocking condition. The Society appointed a committee, after hearing the result of a personal inspection of some of the schools, who communicated with the Board of School Commissioners. Through the efforts of our President, Dr. Andrews, fraternal delegates have been appointed. Homœopathic literature is to be distributed in the State, through a special committee."

Massachusetts Homœopathic Medical Society. Organized 1840. Incorporated 1856. The annual meeting is held in Boston, on the second Wednesday in April. The semi-annual meeting is held in Boston, on the second Wednesday in October. President, Frank C. Richardson, M.D., 601 Boylston Street, Boston, Mass.; Secretary, Frederick L. Emerson, M.D., 118 Hancock Street, Dorchester, Mass. Number of members, 289; admitted last year, 7; died last year, 8. Annual dues, $5.00. Publishes its "Transactions." Delegates, Henry E. Spalding, M.D., Nathaniel A. Emerson, M.D., George H. Talbot, M.D.

Homœopathic Medical Society of the State of Michigan. Organized 1869. Incorporated 1869. The annual meeting is held in different cities in the State, each year, on the third Tuesday in May. President, Charles S. Morley, M.D., 140 Flint Street, Detroit, Mich.; Secretary, Maria W. Norris, M.D., 211 Widdicomb Building, Grand Rapids, Mich. Number of members, 111; admitted last year, 16. Annual dues, $2.00. All papers presented at the annual meeting are printed in the *Medical Counsellor,* which is the official organ of the Society. Delegates, D. A. MacLachlan, M.D., Charles S. Morley, M.D.

Minnesota State Homœopathic Institute. Organized 1867. Not incorporated. President, E. L. Mann, M.D., St. Paul, Minn.; Secretary, Henry C. Aldrich, M.D., 313 Medical Block, Minneapolis, Minn. The annual meeting is held alternately each year at St. Paul and Minneapolis. Number of members, 87. Annual dues, $2.00. Delegates, Alonzo P. Williamson, M.D., Henry C. Aldrich, M.D.

Missouri Institute of Homœopathy. Organized 1876. Not incorporated.

The annual meeting is held alternately each year, at St. Louis and Kansas City, on the third Tueday in April. President, Lloyd G. Van Scoyoc, M.D., 1103 Main Street, Kansas City, Mo.; Secretary, Willis Young, M.D., 2344 Park Avenue, St. Louis, Mo. Number of members, 334; admitted last year, 14; died last year, 3. Annual dues, $2.00. Delegates, W. A. Foster, M.D., S. D. Henry, M.D., William C. Richardson, M.D., C. J. Luyties, M.D.

Nebraska State Homœopathic Medical Society. Organized 1845. Incorporated 1883. The annual meeting is held alternately each year at Omaha and Lincoln. President, Julia C. Starr, M.D., Beatrice, Neb.; Secretary, P. C. Moriarty, M.D., 320 Bee Building, Omaha, Neb. Number of members, 138. Annual dues, $1.00. Delegate, Benjamin F. Bailey, M.D.

Homœopathic Medical Society of the State of New Hampshire. Organized 1853. Incorporated 1853. The annual meeting is held in Concord, on the third Wednesday in June. President, F. D. Worcester, M.D., Keene, N. H.; Secretary, Channing Bishop, M.D., Bristol, N. H. Number of members, 65. Annual dues, $1.00.

New Jersey Homœopathic Medical Society. Organized 1854. Incorporated 1870. The annual meeting is held alternately each year at Newark and Trenton, on the first Tuesday in May. The semi-annual meeting it held in different cities in the State in October. President, Wallace McGeorge, M.D., 521 Broadway, Camden, N. J.; Secretary, C. Herbert Church, M.D., Nutley, N. J. Number of members, 161; admitted last year, 2; died last year, 3. Annual dues, $1.00. Published President's address to the semi-annual meeting. Delegates, Theodore Y. Kinne, M.D., M. F. Middleton, M.D.

Homœopathic Medical Society of the State of New York. Organized 1850. Incorporated 1862. The annual meeting is held in Albany, on the second Tuesday and Wednesday in February. The semi-annual meeting is held in different places each year, in the autumn. President, Jay W. Sheldon, M.D., 501 Fayette Park, Syracuse, N. Y.; Secretary, John L. Moffat, M.D., 17 Schermerhorn Street, Brooklyn, N. Y. Number of members, 509; admitted last year, 36; died last year, 3; resigned last year, 4; dropped last year, 2. Annual dues, $3.00. Has published its "Transactions," with "State Directory and Good Locations."

Homœopathic Medical School of Ohio. The annual meeting is held in different places each year, on the second Tuesday and Wednesday in May. There has been no report from this Society for the past two years.

Homœopathic Medical Society of the State of Oregon Organized 1876. Incorporated 1876. The annual meeting is held in Portland, on the second Tuesday in June. President, G. A. Brown, M.D., Portland, Ore.; Secretary, P. L. McKenzie, M.D., Portland, Ore. Number of members, 50. Annual dues, $2.00.

Homœopathic Medical Society of the State of Pennsylvania. Organized 1866. Incorporated 1896. The annual meeting is held in different places each year in September. President, B. Frank Betts, M.D., 1609 Girard Avenue, Philadelphia, Pa.; Secretary, Edward M. Gramm, M.D., 1833 Chestnut Street, Philadelphia, Pa. Number of members, 318; admitted last year, 13; died last year, 1. Annual dues, $5.00. Published its volume of "Transactions." Delegates, J. H. McClelland, M.D., William W. Van Baun, M.D., William B. Van Lennep, M.D.

Rhode Island State Homœopathic Medical Society. Organized 1850. Incorporated 1850. The annual meeting is held in Providence, on the second

Friday in January. Quarterly meetings are held in Providence, on the second Fridays in April, July and October. President, Sayer Hasbrouck, M.D., 114 Broad Street, Providence, R. I.; Secretary, John H. Bennett, M.D., 255 High Street, Pawtucket, R. I. Number of members, 45; admitted last year, 2. Annual dues, $5.00. Delegates, George B. Peck, M.D., John C. Budlong, M.D. "There seems to be an increasing interest in the Society, characterized by an increasing attendance at its meetings, and more papers of value read. We are planning to celebrate our fiftieth anniversary next January, 1900. We have, as a Society, taken an active stand in regard to pushing the Midwifery Bill (prohibiting practising by midwives in the large cities, unless registered) before the State Legislature."

Homœopathic Medical Society of South Dakota. Organized 1893. Not incorporated. The annual meeting is held in different cities in the State each year, on the second Thursday in June. President, J. H. Smith, M.D., Huron, S. Dak.; Secretary, William Lowe, M.D., Madison, S. Dak. Number of members, 20; admitted last year, 1. Annual dues, $2.00. "The prospects for the future usefulness of the Society seem to be unusually bright."

Homœopathic Medical Society of the State of Tennessee. Organized 1875. Incorporated 1890. The annual meeting is held in different places in the State at no regular time. President, J. E. Enloe, M.D., Nashville, Tenn.; Secretary, E. Harper, M.D., Knoxville, Tenn. Number of members, 32. Annual dues, $1.00.

Texas Homœopathic Medical Association. Organized 1884. Incorporated 1884. The annual meeting is held in different places in the State, on the second Wednesday in May. President, Charles A. Wilson, M.D., San Antonio, Texas.; Secretary, M. J. Bliem, M.D., San Antonio, Texas. Number of members, 50. "We have been unable to hold any meetings for the last two years; the previous years there was barely a quorum present. There are only about fifty in this great State. Distances and expenses are too great to get enough men together to hold meetings. We need more pioneers in Texas. The future of the Association is in doubt."

Utah Homœopathic Medical Association. Organized 1854. Incorporated 1858. The annual meeting is held in Salt Lake City, on the first Tuesday in May. President Isaiah White, M.D., 29 State Street, Salt Lake City, Utah; Secretary, John T. White, M.D., 29 State Street, Salt Lake City, Utah. Number of members, 24. Annual dues, $1.00. There has been no meeting held for the last four years.

Vermont Homœopathic Medical Society. Organized 1854. Incorporated 1858. The annual meeting is held in Montpelier, on the third Wednesday in May. The semi-annual meeting is held in different cities in the State each year, on the third Wednesday in October. President, W. H. Weeks, M.D., East Hordwich, Vt.; Secretary, George I. Forbes, M.D., Burlington, Vt. Number of members, 58; admitted last year, 5. Annual dues, $2.00. Published all papers read before the Society. Delegate, G. E. E. Sparhawk, M.D.

Hahnemann Medical Society of the Old Dominion. Organized 1880. Not incorporated. The annual meeting is held in Richmond, in October. President, Frank P. Webster, M.D., 316 Freemason Street, Norfolk, Va.; Secretary, H. C. Corey, M.D., 312 West Grace Street, Richmond, Va. Number of members, 21. Annual dues, $1.00. Delegate, Frank P. Webster, M.D.

Washington State Homœopathic Medical Society. Organized 1889. Not incorporated. The annual meeting is held in different cities in the State each

year, on the second Thursday in June, President, W. W. Wisner, M.D., Tacoma, Wash.; Secretary, Charles M. Baldwin, M.D., Seattle, Wash. Number of members, 35; died during the year, 1. Annual dues, $2.00.

Homœopathic Medical Society of the State of Wisconsin. Organized 1864. Incorporated 1868. The annual meeting is held in Milwaukee, on the third Wednesday in May. President, W. B. Webb, M.D., Beaver Dam, Wis.; Secretary, Filip A. Forsbeck, M.D., 425 Milwaukee Street, Milwaukee, Wis. Number of members, 100; admitted last year, 16; died last year, 2. Annual dues, $2.00. Publishes the papers read at its meetings in the *Minneapolis Homœopathic Magazine*. Delegates, N. A. Pennoyer, M.D., Lewis Sherman, M.D.

Local Societies.

Californ .

Alameda County Homœopathic Medical Society. Organized 1877. Not incorporated. The annual meeting is held in Oakland, on the second Tuesday of October of each year. Monthly meetings are held in the same place, on the second Tuesday of each month. President, J. M. Selfridge, M.D., 1068 Broadway, Oakland, Cal.; Secretary, Lillian A. Dell, M.D., 1311 Clay Street, Oakland, Cal. Number of members, 22; admitted last year, 1. Annual dues, $1.00. Has published Constitution and By-Laws. "This is the oldest Homœopathic Medical Society in the State of California."

San Diego Homœopathic Medical Society. Organized 1889. Not incorporated. The annual meeting is held in San Diego, on the third Wednesday in December. Monthly meetings are held in the same place on the third Wednesday in December. President, S. Eveline Bailey, M.D., Seventh and F Streets, San Diego, Cal.; Secretary, Thomas Docking, M.D., 164 Boston Avenue, San Diego, Cal. Number of members, 15. Delegate, Edward Grove, M.D.

San Francisco Homœopathic Medical Society. Organized 1893. Not incorporated. The annual meeting is held in San Francisco, on the first Monday in December. Monthly meetings are held in the same place, on the first Monday in each month. President, E. R. Bryant, M.D., 317 Powell Street, San Francisco, Cal.; Secretary, Guy E. Manning, M.D., Spring Valley Building, San Francisco, Cal. Number of members, 45; admitted last year, 3. Annual dues, $1.00.

Southern California Homœopathic Medical Society. Organized 1890. Incorporated 1892. The annual meeting is held in Los Angeles, or some other city in Southern California, on the second Wednesday in October of each year. President, Samuel S. Salisbury, M.D., Bradbury Block, Los Angeles, Cal.; Secretary, F. S. Bernard, M.D., 443-444 Douglass Building, Los Angeles, Cal. Number of members, 90; admitted last year, 9; died last year, 2. Annual dues, $1.00.

Homœopathic Hospital Association of Southern California. Organized 1895. Incorporated 1895. The annual meeting is held in Los Angeles, Cal., on the first Tuesday in March of each year. Meetings are held monthly in the same place. President, James Foord, M.D., San Francisco Building, Los Angeles, Cal.; Secretary, F. S. Barnard, M.D., 443-444 Douglass Building, Los Angeles, Cal. Number of members, 22; admitted last year, 2; died last year, 1. Annual dues, $5.00. "The Hospital Association has no building as yet, but

has real estate in hand, and expects to have a Hospital in active operation within the year."

Connecticut.

Bridgeport Homœopathic Medical Society. Organized 1894. Not incorporated. The annual meeting is held in Bridgeport, on the third Tuesday in October of each year. Monthly meetings are held in the same place on the third Tuesday in each month. President, Edward Smith, M.D., 313 State Street, Bridgeport, Conn.; Secretary, David W. Ingalls, M.D., 309 State Street, Bridgeport, Conn. Number of members, 13; admitted last year, 1. Annual dues, $1.00.

District of Columbia.

Washington Homœopathic Medical Society. Organized 1870. Not incorporated. The annual meeting is held in Washington, D. C., on the first Tuesday in December of each year. Monthly meetings are held in the same place on the first Tuesday in each month. President, Ralph Jenkins, M.D., 1732 Massachusetts Avenue, Washington, D. C.; Secretary, C. A. Davis, M.D., 1010 Fifteenth Streeth, N. W., Washington, D. C. Number of members, 50; admitted last year, 2. Annual dues, $2.00.

Illinois.

Clinical Society of Hahnemann Hospital of Chicago. Organized 1877. Not incorporated. The annual meeting is held in Chicago, on the last Saturday in April of each year. Monthly meetings are held in the same place, on the last Saturday of each month. President, C. J. Swan, M.D., 34 Washington Street, Chicago, Ill.; Secretary, Frank B. Leeds, M.D., Hahnemann Medical College, Chicago, Ill. Number of members, 200. Annual dues, $1.00. Publishes its "Transactions" in the *Clinique*.

Chicago Materia Medica Society. Organized 1899. Not incorporated. President, Thomas C. Duncan, M.D., 100 State Street, Chicago, Ill.; Secretary, Peter S. Replogle, M.D.

Englewood Homœopathic Medical Society. Organized 1890. Not incorporated. The annual meeting is held in Englewood, on the second Monday in May of each year. Monthly meetings are held in the same place, on the second Monday in each month. President, Lowell F. Ingersoll, M.D., 648 West Sixty-first Street, Chicago, Ill.; Secretary, Della M. MacMullen, M.D., 6500 Wentworth Avenue, Chicago, Ill. Number of members, 26; admitted last year, 5. Annual dues, $1.00. Delegates, H. W. Pierson, M.D., Wilson A. Smith, M.D.

Homœopathic Medical Society of Chicago. Organized 1894. Not incorporated. The annual meeting is held in Chicago, on the third Thursday in April of each year. Monthly meetings are held in the same place, on the third Thursday of each month from September to April. President, Howard Roy Chislett, M.D., 3030 Michigan Avenue, Chicago, Ill.; Secretary, Wilson A. Smith, M.D., Walker Avenue, Morgan Park, Ill. Number of members, 192; admitted last year, 26; died last year, 2. Annual dues, $2.00. Has published papers in *The Medical Visitor* and in *The Medical Era*. "The average attendance the last year has been 75; it has been one of the best years of the Society; not a single meeting has been missed."

The Old Guard of Chicago. Organized 1899. Not incorporated. The annual meeting is held in Chicago, on the first Thursday of June in each year. President, Adam Miller, M.D., 172 Ashland Avenue, Chicago, Ill.; Secretary, Thomas C. Duncan, M.D., 100 State Street, Chicago, Ill. Number of members, 30; admitted last year, 39. Delegate, Thomas C. Duncan, M.D. "This Society is composed of those practitioners who have been in practice for thirty years and upwards."

Northwestern Homœopathic Medical Society. Organized 1895. Incorporated 1895. The annual meeting is held in Rockford, Ill., on the first Tuesday in September of each year. Monthly meetings are held alternately in Rockford, Freeport and Elgin, on the first Tuesday in each month. President, W. R. Franklin, M.D., Rockford, Ill.; Secretary, Katherine E. James, M.D., Rockford, Ill. Number of members, 45; admitted last year, 8. Annual dues, $1.00. Delegate, Elizabeth C. Maas, M.D.

Rock River Institute of Homœopathy. Organized 1881. Not incorporated. The annual meeting is held in Dixon, Ill., on the first Wednesday of October of each year. Quarterly meetings are held in different places alternately, on the first Wednesday of January, April and July. President, C. N. Hazleton, M.D., Morrison, Ill.; Secretary, A. W. Blunt, M.D., Clinton, Iowa. Number of members, 23; admitted last year, 5. Annual dues, 50 cents. Delegate, O. B. Blackman, M.D.

Indiana.

Evansville Homœopathic Medical Society. Organized 1894. Not incorporated. The annual meeting is held in Evansville, on the first Tuesday in May of each year. Monthly meetings are held in the same place, on the first Tuesday in each month. President, G. C. Dunlevy, M.D., 109 Walnut Street, Evansville, Ind.; Secretary, U. T. Taylor, M.D., 1500 Main Street, Evansville, Ind. Number of members, 14; admitted last year, 2. Annual dues, $2.00. "The meetings during the past year have been the most interesting ones that the Society has ever had."

Grant County Homœopathic Institute. Organized 1899.

Marion County Homœopathic Medical Society. Secretary, O. E. Maddux, M.D., Indianapolis, Ind.

Northern Indiana and Southern Michigan Homœopathic Medical Association. Organized 1891. Not incorporated. The annual meeting is held in Elkhart, Ind., on the fourth Tuesday in April of each year. The semi-annual meeting is held in the same place, on the fourth Tuesday in October of each year. President, M. K. Kreider, M.D.; Secretary, H. A. Mumaw, M.D., Elkhart, Ind. Number of members, 79; admitted last year, 10; died last year, 2. Annual dues, $1.00. Delegate, Thomas C. Duncan, M.D.

Iowa.

Central Homœopathic Association of Iowa. Organized 1878. Incorporated 1879. The annual meeting is held in Cedar Rapids, on the second Wednesday of July of each year. The semi-annual meeting is held in different places, alternately, on the second Wednesday in January of each year. President, A. L. Pollard, M.D., Iowa City, Iowa; Secretary, Milton Rice, M.D., Cedar Rapids, Iowa.

Des Moines Homœopathic Medical Society. Organized 1883. Not incor-

porated. The annual meeting is held in Des Moines, on the first Monday in January of each year. Monthly meetings are held in the same place, on the first Monday of each month. President, Charles Woodhull Eaton, M.D., 420 Walnut Street, Des Moines, Iowa; Secretary, Charles E. Holloway, M.D., 514 Walnut Street, Des Moines, Iowa. Number of members, 15; admitted last year, 3; died last year, 1. Annual dues, $1.00. Delegate, O. M. Linn, M.D.

Johnson County Homœopathic Medical Society. Organized 1892. Not incorporated. The annual meeting is held in Iowa City, on the last Wednesday in March of each year. Monthly meetings are held in the same place, on the last Wednesday in each month during the College term. President, James G. Gilchrest, M.D., 215 College Avenue, Iowa City, Iowa; Secretary, Charles M. Hazard, M.D., 22 North Clinton Street, Iowa City, Iowa. Number of members, 8; admitted last year, 2. Delegate, F. J. Newberry, M.D.

Northeastern Iowa Homœopathic Medical Society. Organized 1882. Not incorporated. The annual meeting is held in West Union. President, F. H. Becker, M.D., Clermont, Iowa; Secretary, M. Y. Baker, M.D., Fayette, Iowa.

Northwestern Iowa Homœopathic Medical Society. Organized 1896. Not incorporated. The annual meeting is held in different places, alternately, in June of each year. President, B. A. Weldon Schley, M.D.

Sioux City Homœopathic Medical Association. Organized 1889. Not incorporated. The annual meeting is held in Sioux City, on the first Tuesday in March of each year. Monthly meetings are held in the same place on the first Tuesday in each month. President, F. A. Remington, M.D., Sioux City, Iowa; Secretary, J. N. McCartney, M.D., Sioux City, Iowa. Number of members, 17; admitted last year, 2. Annual dues, $2.00.

Kansas.

Shawnee County Homœopathic Medical Society. Organized 1881. Not incorporated. The annual meeting is held in Topeka, on the last Thursday in January. President, P. M. Sturgis, M.D., Topeka, Kan.; Secretary, Colfax Brownell, M.D., Topeka, Kan.

Kentucky.

Falls Cities Homœopathic Medical Society. Organized 1897. Not incorporated. The annual meeting is held in Falls Cities, on the third Friday in October of each year. Monthly meetings are held in the same place, on the third Friday in each month. President, Chester A. Meyer, M.D., 900 Fourth Street, Louisville, Ky.; Secretary, F. C. Askenstedt, M. D., 110 West Chestnut Street, Louisville, Ky. Number of members, 25; admitted last year, 11; died last year, 1.

Maryland.

Homœopathic Clinical Society of Maryland and District of Columbia, Maryland Branch. Organized 1899. Not incorporated. The annual meeting is held in Baltimore, on the last Friday in May of each year. Monthly meetings are held in the same place, on the last Friday in each month. President, B. C. Catlin, M.D., 1625 Linden Avenue, Baltimore, Md.; Secretary, William M. Pannebaker, M.D., 1103 Linden Avenue, Baltimore, Md. Number of members, 34. Annual dues, $1.00.

Massachusetts.

Alumni Association of the Boston University School of Medicine. Organized 1874. Not incorporated. The annual meeting is held in Boston, on "Commencement Day." President, George E. May, M.D., Newton Centre, Mass.; Secretary, Frank E. Allard, M.D., 39 Hancock Street, Boston, Mass. Number of members, 740; admitted last year, 27; died last year, 6. Publishes *The Bulletin of Medical Instruction.*

Boston Homœopathic Medical Society. Organized 1840. Incorporated 1856. The annual meeting is held in Boston, on the first Thursday in January of each year. Monthly meetings are held in the same place, on the first Thursday in each month, from October to June. President, Sarah S. Windsor, M.D., 1138 Marlboro Street, Boston, Mass.; Secretary, Frank E. Allard, M.D., 39 Hancock Street, Boston, Mass. Number of members, 258; admitted last year, 17; died last year, 3. Annual dues, $2.00. Publishes *Boston Homœopathic Medical Society Year Book.* Delegate, George B. Rice, M.D.

Essex County Homœopathic Medical Society. Organized 1871. Not incorporated. The annual meeting is held in Salem, in October of each year. Monthly meetings are held in Lynn and Salem, alternately. President, C. S. Stanley, M.D., Amesbury, Mass.; Secretary, C. W. Morse, M.D., Salem, Mass.

Massachusetts Surgical and Gynæcological Society. Organized 1877. Not incorporated. The annual meeting is held in Boston, on the second Wednesday in December of each year. The semi-annual meeting is held in the same place, on the second Wednesday in June of each year. President, John P. Rand, M.D., Monson, Mass.; Secretary, J. Emmons Briggs, M.D., 206 Huntington Avenue, Boston, Mass. Number of members, 209; admitted last year, 6; died last year, 4. Annual dues, $2.00.

Homœopathic Medical Society of Western Massachusetts. Organized 1877. Incorporated 1877. The annual meeting is held in Springfield on the third Wednesday in March of each year. Quarterly meetings are held in the same place, on the third Wednesday of June, September and December of each year. President, F. A. Woods, M.D., Holyoke, Mass.; Secretary, Alice E. Rowe, M.D., 177 State Street, Springfield, Mass. Number of members, 50; admitted last year, 4; died last year, 1. Annual dues, $1.00. "This Society is a live one. Four most interesting meetings were held during the past year, all of them very well attended. Papers have been presented not only by our own members, but by prominent physicians from medical societies in New York and Boston. Efforts have been made to keep the subject of Materia Medica in the foreground."

Worcester County Homœopathic Medical Society. Organized 1866. Not incorporated. The annual meeting is held in Worcester, on the second Wednesday in November of each year. Quarterly meetings are held in the same place, on the second Wednesday in February, May and August of each year. President, John F. Worcester, M.D., Clinton, Mass.; Secretary, Frank R. Warren, M.D., 68 Pleasant Street, Worcester, Mass. Number of members, 76; admitted last year, 3; died last year, 1. Delegate, F. T. Harvey, M.D.

Michigan.

Alumni Association of Homœopathic College of University of Michigan. Organized 1878. Incorporated 1878. The annual meeting is held in Ann Arbor on "Commencement Day." President, John M. Lee, M.D., 89

Plymouth Avenue, Rochester, N. Y.; Secretary, E. A. Clark, M.D., Ann Arbor, Mich. Number of members, 310; admitted last year, 9.

Homœopathic Medical Society of Southwestern Michigan. Organized 1886. Not incorporated. The annual meeting is held in Kalamazoo, on the first Tuesday in February. Bi-monthly meetings are held in the same place on the first Tuesday in April, June, August, October and December. President, A. B. Cornell, M.D.; Secretary, Nancy B. Sherman, M.D., Janesville, Wis. Number of members, 25. "I ought to report this Society dead, but it may 'only be sleeping;' no funds. Inanition does not furnish fighters. The Secretary has been compelled to rest from labor for an indefinite time, which accounts for change of address."

Saginaw Valley Homœopathic Association. Organized 1886. Not incorporated. The annual meeting is held in Bay City, on the second Tuesday in December. President, R. S. Copeland, M.D.; Secretary, A. B. Welles, M.D., Bay City, Mich.

Detroit Homœopathic Practitioners' Society. The annual meeting is held in Detroit, on the third Thursday in May of each year. Semi-monthly meetings are held in the same place. President, Stephen H. Knight, M.D., 18 West Willis Avenue, Detroit, Mich.; Secretary, R. Milton Richards, M.D., 25 Washington Avenue, Detroit, Mich.

Minnesota.

St. Paul Society of Homœopathic Medicine and Surgery. Organized 1880. Not incorporated. The annual meeting is held in St. Paul, on the first Monday in October of each year. Monthly meetings are held in the same place, on the first Monday in each month. President, J. D. Lewis, M.D., Germania Bank Building, St. Paul, Minn.; Secretary, Eugene Hubbell, M.D., 138 East Sixth Street, St. Paul, Minn. Number of members, 24; admitted last year, 1. Annual dues, 25 cents.

Missouri.

St. Joseph Homœopathic Medical Society. Organized 1897. Not incorporated. The annual meeting is held in St. Joseph, on the first Saturday in December of each year. Monthly meetings are held in the same place, on the first Saturday in each month. President, H. N. Kiener, M.D., St. Joseph, Mo.; Secretary, Kate L. Hickox, M.D., St. Joseph, Mo. Number of members, 19; admitted last year, 1. Annual dues, $1.00. "Very satisfactory meetings have been held every month during the past year."

St. Louis Homœopathic Medical Society. Organized 1886. Incorporated 1886. The annual meeting is held in St. Louis, on the second Saturday in October of each year. Semi-monthly meetings are held in the same place, on the second Saturday in each month, from October to June, inclusive. President, W. J. Gundelach, M.D., 3821 Finney Avenue, St. Louis, Mo.; Secretary, G. N. Siedlitz, M.D., 3333 Lucas Avenue, St. Louis, Mo. Number of members, 51; admitted last year, 14; died last year, 2. Annual dues, $2.00.

Nebraska.

Omaha Homœopathic Medical Society. Organized 1889. Not incorporated. The annual meeting is held in Omaha, on the third Thursday in January of each year. Monthly meetings are held in the same place, on the

third Thursday in each month. President, R. W. Connell, M.D., 1709 Dodge Street, Omaha, Neb.; Secretary, Frederick F. Teal, M.D., 402 Bee Building, Omaha, Neb. Number of members, 20. Annual dues, 50 cents. "We have held no meetings since May, 1898. We expect to start meetings again in the fall."

New Jersey.

West New Jersey Homœopathic Medical Society. Organized 1869. Not incorporated. The annual meeting is held in Camden, on the third Wednesday in May of each year. Quarterly meetings are held in the same place, on the third Wednesday in August, November and February of each year. President, E. H. Phillips, M.D., Cape May, N. J.; Secretary, Wallace McGeorge, M.D., 521 Broadway, Camden, N. J. Number of members, 53; admitted last year, 2; died last year, 1. Annual dues, $1.00. Delegate, Jacob Israel Glassboro, M.D. "We have just rounded out thirty years of good, active work, and we are in a flourishing condition."

New York.

Academy of Pathological Science. Organized 1893. Not incorporated. The annual meeting is held in New York City on the fourth Friday of November. Monthly meetings are held at the same place on the fourth Friday of each month, excepting June, July, August, and September. President, George W. McDowell, M.D., 136 West 130th Street, New York City; Secretary, Walter Sands Mills, M.D., 154 West 119th Street, New York City.

Alumni Association of the New York Medical College and Hospital. Organized 1883. Incorporated 1899. The annual meeting is held in New York City, on "Commencement Day." President, Martin Deschere, M.D., 334 West Fifty-eighth Street, New York City; Secretary, Edwin Rodney Fiske, M.D., 448 Nostrand Avenue, Brooklyn, N. Y. Number of members, 600. Annual dues, $1.00.

Alumni Association of the New York Homœopathic College and Hospital for Women. Organized 1874. Not incorporated. The annual meeting is held in New York City, on "Commencement Day." President, Helene S. Lassen, M.D., 152 Henry Street, Brooklyn, N. Y.; Secretary, Anne L. Langworthy, M.D., 1,381 Boston Road, New York City. Number of members, 313; admitted last year, 4. Annual dues, $1.00. Delegates, Amelia Wright, M.D., Mary A. Brinkman, M.D.

Alumni Association of Ward's Island and Metropolitan Hospitals. Organized 1896. Not incorporated. The annual meeting is held in New York City, on the first Wednesday in December of each year. President, Charles McDowell, M.D., 116 West Thirteenth Street, New York City; Secretary, George Taylor Stewart, M.D., Metropolitan Hospital, Blackwell's Island, New York City. Number of members, 75; admitted last year, 12; died last year, 1. Annual dues, $1.00.

Albany City Homœopathic Medical Society. Organized 1861. Incorporated 1861. The annual meeting is held in Albany, on the second Tuesday in January of each year. Quarterly meetings are held in the same place, on the second Tuesday in April, July and October of each year. President, G. W. Bates, M.D., Schenectady, N. Y.; Secretary, Arthur B. Van Loon, M.D., 50 Eagle Street, Albany, N. Y. Number of members, 60; admitted last year, 4; died last year, 1. Annual dues, $2.00. Delegate, Edward G. Cox, M.D.

Brooklyn Hahnemann Union. Organized 1896. Not incorporated. The annual meeting is held in Brooklyn, on the last Saturday evening in January of each year. Monthly meetings are held in the same place, on the last Saturday evening in each month. The President is chosen at each meeting. Secretary, Mrs. Evangeline Lewis Close, 641 Willoughby Avenue, Brooklyn, N. Y. Number of members, 12; admitted last year, 1. Sometimes the papers are published in the medical journals.

Broome County Homœopathic Medical Society. Organized 1863. Incorporated 1882. The annual meeting is held in Binghamton, on the third Wednesday in June of each year; the semi-annual meeting is held in the same place, on the third Wednesday in December of each year. President, Edward E. Snyder, M.D., 27 Main Street, Binghamton, N. Y.; Secretary, W. F. Ward, M.D., 33 Court Street, Binghamton, N. Y. Number of members, 16; admitted last year, 3; died last year, 1. Annual dues, $1.00.

Chenango County Homœopathic Medical Society. Organized 1871. Incorporated 1872. The annual meeting is held at Norwich, on the third Tuesday in January of each year. The semi-annual meeting is held at different places, alternately, on the third Tuesday in June of each year. President, R. E. Miller, M.D., Oxford, N. Y.; Secretary, F. E. Roper, M.D., Norwich, N. Y. Number of members, 6. Annual dues, $1.00.

Central New York Homœopathic Medical Society. Organized 1865. Incorporated 1866. The annual meeting is held in Syracuse, on the third Thursday in September of each year. Meetings are held quarterly, alternating between Syracuse and Rochester, on the third Thursday of December, March and June of each year. President, Carl Schumacher, M.D., 216 Oak Street, Syracuse, N. Y.; Secretary, S. H. Guild-Leggett, M.D., 329 James Street, Syracuse, N. Y. Number of members, 35; admitted last year, 1. Annual dues, $1.00. Publishes its "Transactions" in the *Hahnemann Advocate.*

Dutchess County Homœopathic Medical Society. Organized 1860. Incorporated 1868. The annual meeting is held in Poughkeepsie, on the third Tuesday in May of each year. The semi-annual meeting is held in the same place, on the third Tuesday in October of each year. President, Charles E. Lane, M.D., 287 Mill Street, Poughkeepsie, N. Y.; Secretary, Anna C. Howland, M.D., 351 Main Street, Poughkeepsie, N. Y. Number of members, 13; admitted last year, 1. Annual dues, $1.00. Delegates, J. H. Otis, M.D., M. H. Angel, M.D.

The Hahnemann Association. Organized 1894. Not incorporated. The annual meeting is held in New York City, in November of each year. President, George G. Shelton, M.D., 521 Madison Avenue; Secretary, George W. McDowell, M.D., 136 West One Hundred and Thirtieth Street, New York City. Number of members, 400. "No meeting was held this last year. The Association is dead, but not yet buried; it may possibly be only in a trance."

Homœopathic Medical Society of the County of Kings. Organized 1857. Incorporated 1857. The annual meeting is held in Brooklyn, on the second Tuesday in January of each year. Monthly meetings are held in the same place, on the second Tuesday in each month. President, Orando E. Ritch, M.D., 337A Macon Street, Brooklyn, N. Y.; Secretary, E. Rodney Fiske, M.D., 448 Nostrand Avenue, Brooklyn, N. Y. Number of members, 160; admitted last year, 5; died last year, 3. Annual dues, $2.00.

Homœopathic Medical Society of the County of New York. Organized

1857. Incorporated 1858. The annual meeting is held in New York City, on the second Thursday in December of each year. Monthly meetings are held in the same place, on the second Thursday of each month. President, St. Clair Smith, M.D., 25 West Fiftieth Street, New York City; Secretary, H. Worthington Paige, M.D., 256 West Fifty-seventh Street, New York City. Number of members, 262; admitted last year, 9; died last year, 3. Annual dues, $3.00. Publishes its "Transactions" in various journals.

Interstate Homœopathic Medical Association. Organized 1894. Not incorporated. The annual meeting is held in Binghamton, on the second Tuesday in May of each year. The semi-annual meeting is held in Scranton, Pa., on the second Tuesday in October of each year. President, S. S. Simmons, M.D., Susquehanna, Pa.; Secretary, Mark S. Purdy, M.D., Corning, N. Y. Number of members, 55; admitted last year, 8; died last year, 1. Annual dues, $2.00. Published papers in the *North American Journal of Homœopathy* and in the *Hahnemannian Monthly*.

Jamestown Homœopathic Medical Society. Organized 1894. Not incorporated. The annual meeting is held in Jamestown, on the second Tuesday in January of each year. Monthly meetings are held in the same place, on the second Tuesday in each month. President, Francis D. Ormes, M.D., Jamestown, N. Y.; Secretary, J. W. Scott, M.D., Jamestown, N. Y. Number of members, 8. Delegate, A. D. Young, M.D.

Jefferson County Homœopathic Medical Society. Organized 1888. Incorporated 1888. The annual meeting is held in Watertown, on the third Wednesday in October of each year. Other meetings are held in the same place, on the third Wednesday of February and June of each year. President, M. M. Ryan, M.D., Philadelphia, N. Y.; Secretary, R. F. Gates, M.D., Brownville, N. Y. Number of members, 13. Annual dues, $1.00. Delegate, R. F. Gates, M.D.

Homœopathic Medical Society of Madison County. Organized 1865. Not incorporated. The annual meeting is held at Oneida, on the fourth Tuesday in June of each year. The semi-annual meeting is held at different places, alternately, on the fourth Tuesday in December of each year. President, B. R. Gifford, M.D., Madison, N. Y.; Secretary, J. T. Wallace, M.D., Oneida, N. Y. Number of members, 7.

Medico Chirurgical Society of Central New York. Organized 1896. Not incorporated. The annual meeting is held in Syracuse, on the first Thursday in June of each year. The semi-annual meeting is held, alternately, in different places, on the first Thursday in December of each year. President, W. H. Proctor, M.D., Binghamton, N. Y.; Secretary, E. Elmer Keeler, M.D., 452 South Salina Street, Syracuse, N. Y. Number of members, 62; admitted last year, 12. Annual dues, $1.00.

Monroe County Homœopathic Medical Society. Organized 1866. Incorporated 1872. The annual meeting is held in Rochester, on the third Tuesday in January of each year. Quarterly meetings are held in the same place, on the third Tuesday in April, July and October of each year. President, Herbert N. Hoyt, M.D., 75 South Fitzhugh Street, Rochester, N. Y.; Secretary, Llewellyn J. Sanders, M.D., 421 Monroe Avenue, Rochester, N. Y. Number of members, 41; admitted last year, 1; died last year, 1. Annual dues, $2.00.

Montgomery County Homœopathic Medical Society. Organized 1881. Not incorporated. The annual meeting is held in Fonda, on the second Tuesday in January of each year. Quarterly meetings are held in the same place,

on the second Tuesday in April, July and October of each year. President, William M. White, M.D., Amsterdam, N. Y.; Secretary, Harriet A. Knott, M.D., Gloversville, N. Y. Number of members, 14. Annual dues, $1.00. Delegate, Caleb B. Walrad, M.D.

New York Homœopathic Materia Medica Society. Organized 1891. Not incorporated. The annual meeting is held in New York City, on the third Wednesday in December of each year. Monthly meetings are held in the same place, on the third Wednesday evening in each month. President, George F. Laidlaw, M.D., 137 West Forty-first Street, New York City; Secretary, Charles Ver Nooy, M.D., 146 West Sixty-fourth Street, New York City. Number of members, 100; admitted last year, 5. Annual dues, $2.00. Has published *Verified Pathogenetic Symptoms,* reported by the New York Materia Medica Society, 1896-1897. Delegate, George F. Laidlaw, M.D.

New York Paedological Society, Homœopathic. Organized 1891. Not incorporated. The annual meeting is held in New York City, on the third Wednesday in October of each year. Monthly meetings are held in the same place, on the third Wednesday of each month, except during the summer. President, Charles Ver Nooy, M.D., 146 West Sixty-fourth Street, New York City; Secretary, J. Perry Seward, M.D., 113 West Eighty-fifth Street, New York City. Number of members, 82; admitted last year, 6; died last year, 1. Annual dues, $1.00.

Onondaga County Homœopathic Medical Society. Organized 1863. Incorporated 1864. The annual meeting is held in Syracuse, on the first Tuesday in May of each year. Monthly meetings are held in the same place, on the first Tuesday in each month. President, W. C. DuBois, M.D., South Salina Street, Syracuse, N. Y.; Secretary, A. G. Anthony, M.D., 608 South Warren Street, Syracuse, N. Y. Number of members, 29; admitted last year, 2. Annual dues, $1.00. Delegate, E. Elmer Keeler, M.D.

Ontario Homœopathic Medical Society. Organized 1861. Not incorporated. The annual meeting is held in Canandaigua, on the third Wednesday in October in each year. Semi-annual meeting is held in Clifton Springs, in June of each year. President, James C. Knapp, M.D., Geneva, N. Y.; Secretary, Charles T. Mitchell, M.D., Canandaigua, N. Y. Number of members, 13. Annual dues, $1.00. No meeting has been held for the last four years. "The Society is in a quiescent state."

Oswego County Homœopathic Medical Society. Organized 1861. Not incorporated. The annual meeting is held in Oswego, on the second Tuesday in June of each year. The semi-annual meeting is held, alternately, in different places, on the second Tuesday in December of each year. President, T. Dwight Stow, M.D., Oswego, N. Y.; Secretary, L. B. Richards, M.D., Oswego, N. Y. Number of members, 8; admitted last year, 1; died last year, 1. Annual dues, $1.00.

Seneca County Homœopathic Medical Society. Organized 1872. Incorporated 1873. The annual meeting is held in Waterloo, on the first Thursday in October of each year. The semi-annual meeting is held, alternately, in different places, on the first Thursday in June of each year. President, A, Horton, M.D., Ovid, N. Y.; Secretary, O. W. Peterson, M.D., Waterloo, N. Y. Number of members, 8. Annual dues, $1.00. Delegate, O. W. Peterson, M.D.

Southern Tier Homœopathic Medical Society. Organized 1874. Incorporated 1878. The annual meeting is held in Corning, on the third Tuesday

in January of each year. Quarterly meetings are held in Elmira and Corning, alternately, on the third Tuesday of April, July and October of each year. President, R. B. Howland, M.D., Elmira, N. Y.; Secretary, E. H. Noble, M.D., 332 East Water Street, Elmira, N. Y. Number of members, 21; admitted last year, 3. Annual dues, $1.00.

Wayne County Homœopathic Medical Society. Organized 1865. Not incorporated. The annual meeting is held, alternately, in different places on the first Tuesday in June of each year. President, W. L. Hartman, M.D., Clyde, N. Y.; Secretary, W. H. Sueeting, M.D., Savannah, N. Y. Number of members, 12. Annual dues, $1.00. No meeting has been held for the last four years.

Westchester County Homœopathic Medical Society. Organized 1865. Incorporated 1865. The annual meeting is held in Yonkers, on the first Wednesday in January of each year. The semi-annual meeting is held, alternately, in different places in the county, on the first Wednesday in June of each year. President, Nathan Nutting, M.D., Mount Vernon, N. Y.; Secretary, Horace G. Keith, M.D., 107 South Broadway, Yonkers, N. Y. Number of members, 32; admitted last year, 1. Annual dues, $1.00. Delegate, Russell P. Fay, M.D.

Western New York Homœopathic Medical Society. Organized 1885. Not incorporated. The annual meeting is generally held, alternately, in Buffalo and Rochester, on the second Friday in April of each year. Quarterly meetings are held, alternately, in different towns in the district, on the second Friday in July, October and January of each year. President, Horace S. Hutchins, M.D., Batavia, N. Y.; Secretary, William Dickson Young, M.D., 29 Park Street, Buffalo, N. Y. Number of members, 161; admitted last year, 21; died last year, 2. Annual dues, $1.00. Has published reprints of papers read before the Society, also Directory of Members. "This Society has held very successful meetings and its present and future have never been so bright."

Ohio.

Alumni Association of Pulte Medical College. Organized 1878. Not incorporated. The annual meeting is held in Cincinnati, on "Commencement day." President R. L. McCormick, M.D., Walnut Hills, Cincinnati, Ohio; Secretary, J. A. Davis, M.D., Covington, Ky. Number of members, 1508; admitted last year, 8. Has published papers by the members in various journals.

Cincinnati Homœopathic Medical Lyceum. Organized 1889. Not incorporated. The annual meeting is held in Cincinnati, on the first Monday in October of each year. Monthly meetings are held in the same place, on the first Wednesday in each month. President, Peter T. Kilgour, M.D., College Hill, Cincinnati, Ohio; Secretary, Ella Hunt, M.D., 604 West Eighth Street, Cincinnati, Ohio. Number of members, 40; admitted last year, 8; died last year, 1. Annual dues, $2.00. Has published papers and reports in journals. Delegate, H. H. Wiggers, M.D.

Cleveland Homœopathic Society. Organized 1890. Not incorporated. The annual meeting is held in Cleveland, on the third Wednesday in February of each year. Monthly meetings are held on the third Wednesday in each month. President, G. W. Spencer, M.D., 176 Euclid Avenue, Cleveland, Ohio; Secretary, N. T. B. Nobles, M.D., 275 Prospect Street, Cleveland, Ohio. Number of members, 75; admitted last year, 15. Annual dues, $1.00. Delegate, J.

Richey Horner, M.D. "The Society has an enthusiastic membership, and one that is on the increase. The papers are of a high order and are freely discussed. We think that we are accomplishing a great deal of good."

Columbus Homœopathic Medical Society. Organized 1897. Not incorporated. The annual meeting is held in Columbus, on the first Monday in December of each year. Semi-annual meetings are held in the same place. on the first and third Mondays in each month. President, C. A. Schulze, M.D., 49 East Main Street, Columbus, Ohio; Secretary, E. S. Evans, M.D., Lazarus Block, Columbus, Ohio. Number of members, 25; admitted last year, 3. Annual dues, $1.00. Delegate, W. B. Carpenter, M.D. "The Society has been doing most excellent work during the past year. Through the efforts of its members the establishment of a Homœopathic Hospital is about to be realized."

Dayton Homœopathic Medical Society. The annual meeting is held in Dayton, on the first Monday in March of each year. Semi-monthly meetings are held in the same place, on the first and third Mondays in each month. President, F. W. Murphy, M.D., Dayton, Ohio; Secretary, C. W. Ginn, M.D., Dayton, Ohio.

Homœopathic Medical Society of Eastern Ohio. Organized 1872. Not incorporated. The annual meeting is held in Akron, on the third Wednesday in April of each year. President, J. Deetrick, M.D., Youngstown, Ohio; Secretary, R. B. Carter, M.D., Akron, Ohio.

Miami Valley Homœopathic Medical Society. Organized 1860. Incorporated 1870. The annual meeting is held in different places, alternately, on the last Thursday in April of each year. The semi-annual meeting is held in Dayton, on the last Thursday in October of each year. President, Henry E. Beebe, M.D., Sidney, Ohio; Secretary, W. Webster Ensey, M.D., 405 South Brown Street, Dayton, Ohio. Number of members, 105; admitted last year, 6. Has published several papers read before the Society, in the medical journals. Delegate, F. D. Bittinger, M.D. "The interest in the meetings of the Society is on the increase; the meetings during the past year have been more profitable than ever before."

Northwestern Ohio Homœopathic Medical Society. Organized 1899.

Summit County Clinical Society. Organized 1885. Not incorporated. The annual meeting is held in Akron, on the first Tuesday in January of each year. Monthly meetings are held in the same place, on the first Tuesday in each month. President, E. J. Canfield, M.D., Akron, Ohio; Secretary, Katherine Kurt, M.D., 113 South Broadway, Akron, Ohio. Number of members, 17; admitted last year, 1.

Pennsylvania.

Alumni Association of Hahnemann College of Philadelphia. Organized 1857. Not incorporated. The annual meeting is held in Philadelphia, on "Commencement Day." President, William R. King, M.D., 1422 K Street, N. W., Washington, D. C.; Secretary, Woodward D. Carter, M.D., 1533 South Fifteenth Street, Philadelphia, Pa. Number of members, 1240; admitted last year, 88; died last year, 8. Has published essays and addresses in different medical journals.

Allegheny County Homœopathic Medical Society. Organized 1864. Not incorporated. The annual meeting is held in Pittsburg, on the second Tues-

day in December of each year. Monthly meetings are held in the same place, on the second Tuesday in each month. President, G. A. Mueller, M.D., 400 Penn Avenue, Pittsburg, Pa.; Secretary, George B. Moreland, M.D., 401-403 Smith Block, Pittsburg, Pa. Number of visitors, 74; admitted last year, 5; died last year, 1. Annual dues, $2.00. Delegate, W. J. Martin, M.D.

Erie County Homœopathic Medical Society. Organized 1891. Not incorporated. The annual meeting is held in Erie. Quarterly meetings are held in the same place. President, J. R. Phillips, M.D., 15 East Eighth Street, Erie, Pa.; Secretary, R. T. Marks, M.D., 252 West Eighteenth Street, Erie, Pa. Number of members, 16. "Our Society has been very irregular in its meetings on account of the tardiness of the members. We are in hopes, in the near future, to get into better shape, and to become an active Society."

Central Homœopathic Medical Society of Pennsylvania. Organized 1893. Incorporated 1893. The annual meeting is held, alternately, in different places on the second Tuesday in May of each year. Quarterly meetings are held, alternately, in different places, on the second Tuesday in August, November and February. President, E. H. Morrow, M.D., Altoona, Pa.; Secretary, W. A. Wesner, M.D., Johnstown, Pa. Number of members, 23; died last year, 1. Annual dues, $2.00. Has published various papers read before the Society, in different medical journals.

Goodno Homœopathic Medical Society. Organized 1899. President, D. W. Harner, M.D., New Holland, Pa.; secretary, E. T. Prizer, M.D., Lancaster, Pa.

Homœopathic Medical Society of Chester, Delaware and Montgomery Counties. The annual meeting is usually held in Philadelphia, on the second Tuesday in October of each year. Bi-monthly meetings are held, alternately, in different places, on the second Tuesday in December, February, April, June and August of each year. President, Franklin Powel, M.D., Fifth and Madison Streets, Chester, Pa.; Secretary, Isaac Crowther, M.D., 143 East Seventh Street, Chester, Pa. Number of members, 45; admitted last year, 14; died last year, 1. Annual dues, $1.00. Delegate, Isaac Crowther, M.D.

Homœopathic Medical Society of Delaware County. Organized 1898. Not incorporated. The annual meeting is held, alternately, in different places, on the second Tuesday in May of each year. Bi-monthly meetings are held, alternately, in different places, on the second Tuesdays in July, September, November, January and March of each year. President, Robert P. Mercer, M.D., 223 West Third Street, Chester, Pa.; Secretary, George C. Webster, M.D., Chester, Pa. Number of members, 20; admitted last year, 4. Annual dues, $1.00. Delegate, Trimble Pratt, M. D.

Homœopathic Medical Society of Germantown. Organized 1877. Not incorporated. The annual meeting is held in Germantown, in January of each year. Monthly meetings are held in the same place. President, Louis Plumer Posey, M.D., 1435 Walnut Street, Philadelphia, Pa.; Secretary, James Harwood Closson, M.D., 53 West Chelten Avenue, Germantown, Pa. Number of members, 154; died last year, 2. Delegate, Dr. Christine.

Homœopathic Medical Society of Philadelphia County. Organized 1886. Not incorporated. The annual meeting is held in Norristown, on the second Tuesday in May of each year. Bi-monthly meetings are held, alternately, in different places on the second Tuesdays in July, September, November, January and March of each year. President, E. B. Rossiter, M.D., Pottstown,

Pa.; Secretary, Henry M. Bunting, M.D., Norristown, Pa. Number of members, 18. Annual dues, $1.00.

Homœopathic Medical Society of Lehigh Valley. Organized 1881. Not incorporated. The annual meeting is held in Easton, on the first Thursday in December of each year. Bi-monthly meetings are held in the same place, on the first Thursdays in February, April, June, August and October of each year. President, F. A. Garis, M.D., West Bethlehem, Pa.; Secretary, W. D. Straub, M.D., Bethlehem, Pa. Number of members, 31; admitted last year, 2. Annual dues, $1.00. Delegates, Margaret Schwartz, M.D., Daniel Yoder, M.D.

Luzerne County Homœopathic Medical Society. Organized 1899. Bi-weekly meetings are held in Wilkesbarre. President, Douglass Kistler, M.D., Wilkesbarre, Pa.; Secretary, J. A. Brooke, M.D., Wilkesbarre, Pa.

Homœopathic Medical Society of Northern Pennsylvania. Organized 1880. Not incorporated. The annual meeting is held in Scranton, on the third Thursday in June of each year. Bi-monthly meetings are held, alternately, in Scranton and Wilkesbarre, on the third Thursdays in August, October, December, February and April of each year. President, J. C. Bullard, M.D., Wilkesbarre, Pa.; Secretary, Anna C. Clarke, M.D. 436 Adams Avenue, Scranton, Pa. Number of members, 30; admitted last year, 1. Annual dues, $2.00.

Homœopathic Medical Society of Philadelphia County. Organized 1886. Not incorporated. The annual meeting is held in Philadelphia, on the second Thursday in June of each year. Monthly meetings are held in the same place, on the second Thursday in each month. President, Edward M. Gramm, M.D., 1833 Chestnut Street, Philadelphia, Pa.; Secretary, Weston D. Bayley, M.D., S. E. corner of Fifteenth and Poplar Streets, Philadelphia, Pa. Number of members, 281; admitted last year, 10; died last year, 2. Annual dues, $1.00. Has published its "Transactions" in the *Hahnemannian Monthly*. Delegates, William W. Van Baun, M.D., William B. Van Lennep, M.D.

Homœopathic Medical Society of the Twenty-third Ward of Philadelphia. Organized 1881. Not incorporated. The annual meeting is held in Philadelphia, on the third Wednesday in October of each year. Monthly meetings are held, alternately, at different places in Philadelphia, on the third Wednesday in each month. President, D. W. Bartine, Fox Chase, Philadelphia, Pa.; Secretary, Charles Becker, M.D., 1902 Tioga Street, Philadelphia, Pa. Number of members, 26. Annual dues, $1.50. Delegates, Chandler Weaver, M.D., William C. Powell, M.D.

Pharmacological Society of Hahnemann College of Philadelphia. Organized 1895. Not incorporated. The annual meeting is held in Philadelphia, on the fourth Tuesday in October of each year. Monthly meetings are held in the same place, on the fourth Tuesday in each month. President, Charles Mohr, M.D., 1823 Green Street, Philadelphia, Pa.; Secretary, Charles A. Ayers, M.D., 1643 South Broad Street, Philadelphia, Pa. Number of members, 24. Annual dues, $2.00. Delegate, Charles Mohr, M.D.

Woman's Homœopathic Medical Society of Pittsburg. Organized 1899. President, Millie J. Chapman, M.D., 804 Penn Avenue, Pittsburg, Pa.; Secretary, Anna Johnston, M.D.

Reading Homœopathic Hospital and Dispensary Association. Organized 1887. Not incorporated. The annual meeting is held in Reading, on the third Tuesday in January of each year. Monthly meetings are held in the same place, on the last Tuesday in each month. President, C. R. Haman, M.D.,

219 North Ninth Street, Reading, Pa.; Secretary, H. F. Schantz, M.D., 402 North Fifth Street, Reading, Pa. Number of members, 12; admitted last year, 2. Annual dues, $1.00. Delegate, D. C. Kline, M.D.

Homœopathic Medical Society of Wilkesbarre. Organized 1899.

Tennessee.

Chattanooga Homœopathic Medical Society. Organized 1888. Not incorporated. The annual meeting is held in Chattanooga, on the first Wednesday in April of each year. Monthly meetings are held in the same place, on the first Wednesday in each month. President, Emmor H. Price, M.D., corner of Fourth Street and Georgia Avenue, Chattanooga, Tenn.; Secretary, W. W. French, M.D., 108 Miller Building, Chattanooga, Tenn. Number of members, 5; admitted last year, 1.

Virginia.

Richmond Homœopathic Medical Society. Organized 1895. Not incorporated. The annual meeting is held in Richmond, on the first Tuesday in February of each year. Monthly meetings are held in the same place, on the Monday before the first Tuesday in each month. President, E. C. Williams, M.D., 115 North Fifth Street, Richmond, Va.; Secretary, Harry S. Corey, M.D., 312 West Grace Street, Richmond, Va. Number of members, 7.

Wisconsin.

Milwaukee Academy of Medicine. Organized 1897. Not incorporated. The annual meeting is held in Milwaukee, on the third Wednesday in April of each year. Monthly meetings are held in the same place, on the third Wednesday in each month, from September to April. President, Lewis Sherman, M.D., 448 Jackson Street, Milwaukee, Wis.; Secretary, W. W. Irving, M.D., 173 Wisconsin Street, Milwaukee, Wis. Number of members, 17; admitted last year, 5. Annual dues, $1.00. "Program consists of voluntary papers by the several members, one or more of them to be read and discussed at each meeting."

Medical Clubs.

California.

Organon and Materia Medica Club of the Bay Cities of California. Organized 1894. Not incorporated. The annual meeting is held in San Francisco, on the third Friday in July of each year. Monthly meetings are held, alternately, in San Francisco and Oakland, on the third Friday in each month. President, J. M. Selfridge, M.D., 1068 Broadway, Oakland. Cal.; Secretary, Guy E. Manning, M.D., Spring Valley Building, San Francisco, Cal. Number of members, 8. "On account of the sickness of the President, no meetings have been held since January, and it is doubtful when they will be resumed."

Colorado.

Denver Homœopathic Club. Organized 1890. Not incorporated. The annual meeting is held in Denver, on the third Monday in January of each

year. Monthly meetings are held in the same place, on the third Monday in each month. President, David A. Strickler, M.D., 705 Fourteenth Street, Denver, Col.; Secretary, Edwin Jay Clark, M.D., 1630 Arapahoe Street, Denver, Col. Number of members, 41; admitted last year, 12. Annual dues, $1.00. Have published the papers which have been read at the meetings, in the *Critique*. "The Club is in a very prosperous condition; meetings are very well attended, and the interest in them is steadily increasing."

Connecticut.

Dunham Medical Club of Hartford. Organized 1897. Not incorporated. The annual meeting is held in Hartford, on the last Saturday evening of each year. Monthly meetings are held in the same place, on the last Saturday evening of each month. The President is chosen at each meeting. Secretary, Hills Cole, M.D., 926 Main Street, Hartford, Conn. Number of members, 16; admitted last year, 4. "We meet informally to discuss medical papers, and also the action of some one drug, each member relating his experience with it."

District of Columbia.

Washington Medical and Surgical Club. Organized 1892. Not incorporated. The annual meeting is held in Washington, on the third Thursday in December of each year. Monthly meetings are held in the same place, on the third Thursday of each month. President, W. R. Corey, M.D., 1305 R Street, N. W., Washington, D. C.; Secretary, C. A. Davis, M.D., 1010 Fifteenth Street, Washington, D. C. Number of members, 12. Delegate, William R. King, M.D.

Georgia.

Atlanta Medical Club. Organized 1882. Not incorporated. The annual meeting is held in Atlanta, on the first Monday in June. Monthly meetings are held in the same place, on the first Monday in each month. President, A. E. Hinman, M.D., 25 Grant Building, Atlanta, Ga.; Secretary, Clarence M. Paine, M.D., 67 North Forsyth Street, Atlanta, Ga.

Maryland.

Baltimore Homœopathic Medical and Journal Club. Organized 1895. Not incorporated. Meetings are held monthly in Baltimore. The President is chosen at each meeting. Secretary, William M. Pannebaker, M.D., 1103 Linden Avenue, Baltimore, Md. Number of members, 8. Annual dues, $3.00.

Massachusetts.

Hughes Medical Club. Organized 1879. Not incorporated. The annual meeting is held in Boston, on the second Friday in May of each year. Monthly meetings are held in the same place, on the second Friday of each month, from October to June, inclusive. The President is chosen at each meeting. Secretary, Frederick D. Stackpole, M.D., 24 Kenilworth Street, Roxbury, Mass. Number of members limited to 15; admitted last year, 1. Annual dues, $1.00. Delegate, John P. Sutherland, M.D.

Neighborhood Medical Club of Boston. Organized 1897. Not incor-

porated. Meets monthly. President is chosen at each meeting. Secretary, J. Tucker Cutler, M.D. Number of members, 40; admitted during the year, 10. Delegate, N. R. Perkins, M.D.

Lowell Hahnemann Club. Organized 1881. Not incorporated. The annual meeting is held in Lowell, on the third Tuesday in November of each year. Monthly meetings are held in the same place, on the third Tuesday in each month, from June to September, inclusive. President, C. H. Leland, M.D., 202 Merrimack Street, Lowell, Mass.; Secretary, George L. Van Deursen, M.D., 17 Kirk Street, Lowell, Mass., Number of members, 10; admitted last year, 1; died last year, 1. Annual dues, $2.00. Delegate, C. H. Leland, M.D. "Horatio M. Hunter, M.D., deceased January 11, 1899; he was the first President of the Society."

Farrington Club. Organized 1897. Not incorporated. The annual meeting is held in Salem, on the first Thursday in September of each year. Weekly meetings are held in the same place, every Thursday evening. President, C. F. Ames, M.D., Ipswich, Mass.; Secretary, C. W. Morse, M.D., Salem, Mass.

Allen Homœopathic Materia Medica Club. Organized 1899. The annual meeting is held in Springfield. Monthly meetings are held in the same place. President, A. M. Cushing, M.D., 177 State Street, Springfield, Mass.; Secretary, Clarice J. Parsons, M.D., 347 St. James Avenue, Springfield, Mass. Number of members, 20. "The Club has just been organized, but we hope to grow in numbers and usefulness."

Missouri.

Hahnemann Club of St. Louis. Organized 1873. Not incorporated. The annual meeting is held in St. Louis, in January of each year. Meetings are held in the same place, semi-monthly. President is chosen at each meeting Secretary, James A. Campbell, M.D., 1729 Washington Avenue, St. Louis, Mo. Number of members, 10; admitted last year, 2; died last year, 1. Delegate, T. Griswold Comstock, M.D. "The meetings are social and fraternal."

Nebraska.

Western Hahnemann Club of Omaha. Organized 1893. Not incorporated. The annual meeting is held in Omaha, on the third Wednesday in May of each year. Monthly meetings are held, alternately, in Omaha and Council Bluffs, Iowa, on the third Wednesday in each month. The President is chosen at each meeting. Secretary, P. C. Moriarty, M.D., Bee Building, Omaha, Neb. Number of members, 16.

New Jersey.

Atlantic City Homœopathic Medical Club. Organized 1897. Not incorporated. The annual meeting is held in Atlantic City, on the third Friday in January of each year. Monthly meetings are held in the same place, on the third Friday in each month. President, John R. Fleming, M.D., 1903 Pacific Avenue, Atlantic City, N. J.; Secretary, W. A. Corson, M.D., Atlantic City, N. J. Number of members, 15; admitted last year, 2. Annual dues, $2.00.

Communipaw Medical Club. Organized 1885. Not incorporated. Meetings are held semi-monthly, in Jersey City. President, Levings A. Opdyke,

M.D., 55 Clinton Avenue, Jersey City, N. J.; Secretary, Eugene H. Porter, M.D., 181 West Seventy-third Street, New York City. Number of members, 3.

Machaon Club of Jersey City. Organized 1893. Not incorporated. The annual meeting is held in Jersey City, in February of each year. Monthly meetings are held in different places. President, J. B. Given, M.D., 355 Eleventh Street, Brooklyn, N. Y.; Secretary, Z. P. Fletcher, M.D., 23 Cottage Street, Jersey City, N. J. Number of members, 12; admitted last year, 1. Annual dues, $1.00.

New Jersey Chiron Club. Organized 1894. Not incorporated. The annual meeting is held in Newark, in June of each year. Monthly meetings are held in the same place. President is chosen at each meeting. Secretary, E. D. G. Conkling, M.D., 224 Belleville Avenue, Newark, N. J. Number of members, 13. Annual dues, $1.50.

New Jersey Medical Club. Organized 1839. Not incorporated. The annual meeting is held in Newark, on the third Wednesday in March of each year. Monthly meetings are held in the same place. President, William Durrie, Jr., M.D., Newark, N. J.; Secretary, C. B. Holmes, M.D., Rahway, N. J. Number of members, 15; limited to that number.

New York.

Æsculapian Club of Brooklyn. Organized 1898. Not incorporated. The annual meeting is held in Brooklyn, on the first Friday in October of each year. Monthly meetings are held in the same place, on the first Friday of each month, from October to May, inclusive. The Chairman is chosen at each meeting. Secretary, George F. Lazarus, M.D., 6 Caton Avenue, Brooklyn, N. Y. Number of members, 20.

Brooklyn Medical Club. Organized 1890. Not incorporated. The annual meeting is held in Brooklyn, on the third Monday in October of each year. Monthly meetings are held on the third Monday of each month, from October to May, inclusive. The Chairman is chosen at each meeting. Secretary, Herbert D. Schenck, M.D., 341 McDonough Street, Brooklyn, N. Y. Number of members, 16.

Clinical Club of Buffalo. Organized 1895. Not incorporated. The annual meeting is held in Buffalo, on the second Monday in April of each year. Semi-monthly meetings are held in the same place, on the second and fourth Mondays in each month, from October to May, inclusive. The Chairman is elected at each meeting. Secretary, William Dickson Young, M.D., 29 Park Street, Buffalo, N. Y. Number of members, 30; admitted last year, 5. "This Club has carried out, in every particular, a very successful program, covering fifteen meetings. Its present condition and future prospects are most excellent; never more so."

Chiron Club of New York. Organized 1886. Not incorporated. The annual meeting is held in New York City, in December of each year. Monthly meetings are held in the same place. President, George A. Shepard, M.D., "Strathmore," Broadway and Fifty-second Street, New York City; Secretary, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Number of members, 20; limited to that number.

Clinical Club of New York. Organized 1877. Not incorporated. The annual meeting is held in New York City, on the third Friday in November of

each year. Monthly meetings are held in the same place, on the third Friday of each month, from October to June, inclusive. President, George E. Tytler, M.D., 113 West One Hundred and Twenty-sixth Street, New York City; Secretary, George W. McDowell, M.D., 136 West One Hundred and Thirtieth Street, New York City. Number of members, 24; limited to that number. Annual dues, $12.00.

Dunham Club of New York. President, William L. Love, M.D., 1188 Dean Street, Brooklyn, N. Y.; Secretary, Walter G. Crump, M.D., 693 Madison Avenue, New York City.

Jahr Club of New York. Organized 1876. Not incorporated. The annual meeting is held in New York City, on the first Monday in December of each year. Monthly meetings are held in the same place, on the first Monday in each month. President, Frederick J. Nott, M.D., 554 Madison Avenue, New York City; Secretary, Henry M. Dearborn, M.D., 146 West Fifty-seventh Street, New York City. Number of members, 12.

Meissen Club of New York. Organized 1890. Not incorporated. The annual meeting is held in New York City, on the third Friday in June of each year. Monthly meetings are held in the same place, on the third Friday in each month, with the exception of July and August. President, Alton G. Warner, M.D., 194 Schermerhorn Street, Brooklyn, N. Y.; Secretary, Irving P. Sherman, M.D., 144 West Forty-fourth Street, New York City. Number of members, 24.

New York Homœopathic Union. Organized 1888. Not incorporated. The annual meeting is held in New York City, on the third Thursday in April of each year. Monthly meetings are held in the same place, on the third Thursday in each month, except during the summer. President, Edward Carleton, M.D., 62 West Forty-ninth Street, New York City; Secretary, Emilie C. D. O'Brien, M.D., 226 East Eighty-seventh Street, New York City. Number of members, 40. "The Society was first called by Edmund Bayard, M.D., P. P. Wells, M.D., B. Fincke, M.D., Clarence W. Butler, M.D., and Edmund Carleton, M.D., Until Dr. Banard's death the Society met regularly at his residence; since that time it has met at the residence of Dr. Carleton. Dr. Clarence W. Butler was the first Secretary. Dr. Edward Bayard was the first President, and occupied that position until his death. He was succeeded in that office by Dr. B. Fincke, who filled the position for several years. He was succeeded by the present President, Dr. Edmund Carleton. We have never had a Constitution or By-Laws, or elective membership. All physicians who are interested in sustaining pure Homœopathy are welcome. We meet monthly, except during the summer. At our last meeting, Dr. J. T. Kent, of Philadelphia, read a paper on Materia Medica, which was discussed by numerous physicians. There were twenty-five physicians present; that was a good attendance. Our meetings are made up from about forty physicians, who commonly attend."

Unanimous Club of New York. Organized 1893. Not incorporated. The annual meeting is held in New York City, on the last Monday in December of each year. Quarterly meetings are held in the same place, on the last Monday evenings of March, June and September of each year. The President is chosen at each meeting. Secretary, Eugene H. Porter, M.D., 181 West Seventy-third Street, New York City. Number of members, 22. Annual dues, $20.00.

Farrington Medical Club of Watertown. Organized 1887. Not incor-

porated. The annual meeting is held in Watertown, on the second Wednesday in November of each year. Monthly meetings are held in the same place, on the second Wednesday in each month, with the exception of July, August and September. President, G. S. Farmer, M.D., Watertown, N. Y.; Secretary, William T. Laird, M.D., Watertown, N. Y.

Pennsylvania.

Organon Club of Chester. Organized 1887. Not incorporated. The annual meeting is held in Chester, in February of each year. Monthly meetings are held in the same place. President, Robert P. Mercer, M.D., 223 West Third Street, Chester, Pa.; Secretary, Daniel P. Maddux, M.D., 700 Madison Street, Chester, Pa. Number of members, 13; admitted last year, 1; died last year, 1. Delegate, Robert P. Mercer, M.D.

Grauvogle Club. Organized 1898. Not incorporated. Meetings are held weekly. President, James Harwood Closson, M.D., 53 West Chelten Avenue, Germantown, Philadelphia, Pa.; Secretary, J. Gilbert Palen, M.D., Germantown, Philadelphia, Pa. Number of members, 12.

Boenninghausen Club of Philadelphia. Organized 1899. Not incorporated. The annual meeting is held in Philadelphia, on the second Wednesday in November of each year. Monthly meetings are held at the office of the Secretary, on the fourth Wednesday in each month. President, Joseph Hancock, M.D., Seventeenth Street and Columbian Avenue, Philadelphia, Pa.; Secretary, George W. Smith, M.D., 806 North Broad Street, Philadelphia, Pa. Number of members, 10; admitted last year, 3; died last year, 1. Annual dues, $2.00.

Hahnemann Club of Philadelphia. Organized 1872. Not incorporated. The annual meeting is held in Philadelphia, on the second Tuesday in January of each year. Monthly meetings are held in the same place, on the second Tuesday in each month. President, Pemberton Dudley, M.D., 1405 North Sixteenth Street, Philadelphia, Pa.; Secretary, Thomas S. Dunning, M.D., 1328 North Fifteenth Street, Philadelphia, Pa. Number of members, 11; died last year, 1. Delegate, Bushrod W. James, M.D.

Oxford Medical Club of Philadelphia. Organized 1885. Not incorporated. The annual meeting is held in Philadelphia, on the first Friday in January of each year. Monthly meetings are held in the same place, on the first Friday evening of each month. President, William G. Steele, M.D., 1431 Girard Avenue, Philadelphia, Pa.; Secretary, George W. Smith, M.D., 806 North Broad Street, Philadelphia, Pa. Number of members, 15. Annual dues, $2.00. "A number of scientific papers, of great interest and value, have been read at the respective meetings." Delegate, Edward R. Snader, M.D.

Philadelphia Clinical Society. Organized 1880. Not incorporated. The annual meeting is held in Philadelphia, in October of each year. Bi-monthly meetings are held in the same place. President, Charles M. Thomas, M.D., 1623 Arch Street, Philadelphia, Pa.; Secretary, William H. Bigler, M.D., 118 North Seventeenth Street, Philadelphia, Pa. Number of members, 10.

Philadelphia Medical Club. Organized 1880. Not incorporated. The annual meeting is held in Philadelphia, on the first Wednesday in January of each year. Monthly meetings are held in the same place, on the first Wednesday in each month. President, Oliver Sloane Haines, M.D., 137 North Fifteenth Street, Philadelphia, Pa.; Secretary, Edward W. Mercer, M.D., 157

North Fifteenth Street, Philadelphia, Pa. Number of members, 15; admitted last year, 1; died last year, 1. Papers of the members are at once published in some medical journal.

A. R. Thomas Club of Philadelphia. Organized 1888. Not incorporated. The annual meeting is held in Philadelphia, on the second Wednesday in March of each year. Monthly meetings are held in the same place, on the second Wednesday in each month. President, Thomas H. Carmichael, M.D., 7127 Germantown Avenue, Philadelphia, Pa.; Secretary, Albert A. Norris, M.D., 4818 Chester Avenue, Philadelphia, Pa. Number of members, 23.

Saturday Night Club of Microscopists of Philadelphia. Organized 1894. Not incorporated. The annual meeting is held in Philadelphia, on the third Saturday in January of each year. Monthly meetings are held in the same place, on the third Saturday in each month. President, Joseph C. Guernsey, M.D., 1923 Chestnut Street, Philadelphia, Pa.; Secretary, Nathan Smilie, M.D., 4624 Chester Avenue, Philadelphia, Pa. Number of members, 44; admitted last year, 11; died last year, 1. Annual dues, $1.00. Has published reports of meetings, and papers read by members of the Club. Delegates, E. M. Gramm, M.D., Joseph C. Guernsey, M.D., Nathan Smilie, M.D. "The following papers and demonstrations were read and given during 1898-1899: 'The Neuron,' by John J. Tuller, M.D.; 'Methods of Examining Specimens for Streptococci, Gonococci and Tubercle Bacilli,' by G. A. Van Lennep, M.D.; 'Plasmodium Malariæ,' paper, and slides of blood showing plasmodii, by Oliver S. Haines, M.D.; 'Syringo Myelitis and Tabes Dorsalia,' paper by John J. Tuller, M.D.; slides by Dr. Hall; 'Technique of Clinical Examination of the Blood,' by C. S. Raue, M.D.; 'Uric Acid as a Factor in Eneuresis,' by Joseph C. Guernsey, M.D.; 'Methods of Clinical Examination of the Blood,' demonstration by Bushrod James, M.D.; 'The Minute Anatomy of the Skin and Its Appendages,' paper and microscopic sections, by E. M. Gramm, M.D., and W. N. Knowlton, M.D.; 'The Minute Anatomy of the Female Generative Organs,' paper and microscopic sections, by T. J. Gramm, M.D."

Trousseau Clinical Club of Philadelphia. Organized 1895. Not incorporated. The annual meeting is held in Philadelphia, on the first Tuesday in May of each year. Monthly meetings are held in the same place, on the first Tuesday in each month. President, H. S. Weaver, M.D., 1621 Chestnut Street, Philadelphia, Pa.; Secretary, W. A. Weaver, M.D., 1534 Master Street, Philadelphia, Pa. Number of members, 15; admitted last year, 1; died last year, 1. Annual dues, $2.00 to $8.00. Has published the papers read before the Club at their monthly meetings in the leading Homœopathic journals.

Woman's Homœopathic Medical Club of Philadelphia. The annual meeting is held in Philadelphia, on the first Monday evening in November of each year. Monthly meetings are held in the same place, on the first Monday evening in each month. President, Eliza Lang McClure, M.D., 1919 Wallace Street, Philadelphia, Pa.; Secretary, Lydia Webster, M.D., 1719 Arch Street, Philadelphia, Pa. Number of members, 20. "We have very interesting papers and discussions on various medical subjects. Our Society is a live one."

Dusquesne Medical Club of Pittsburg. Organized 1896. Not incorporated. The annual meeting is held in Pittsburg, on the third Friday in November of each year. Monthly meetings are held on the third Friday in each month, in the same place. President, George B. Moreland, M.D., 1321 Fifth Avenue,

Pittsburg, Pa.; Secretary, E. H. Pond, M.D., 2041 Wylie Avenue, Pittsburg, Pa.

Homœopathic Practitioners' Association of Reading. Organized 1896. Not incorporated. The annual meeting is held in Reading, on the second Tuesday in January of each year. Monthly meetings are held in the same place, on the first Tuesday in each month. President, W. F. Marks, M.D., 48 North Ninth Street, Reading, Pa.; Secretary, F. W. Seidel, M.D., 372 North Front Street, Reading, Pa. Number of members, 12; admitted last year, 3. Delegates, Margaret Hassler Schantz, M.D. Has published papers read at the meetings in the various medical journals.

Miscellaneous Homœopathic Associations.

The Meissen. Organized 1893. The annual meeting is held in the same place and at the same time as the American Institute of Homœopathy. President, Mrs. Eugene H. Porter, 181 West Seventy-third Street, New York City; Secretary, Miss Emily F. Paine, 23 East Forty-sixth Street, New York City. Number of members, 158; admitted last year, 5; died last year, 1. Annual dues, $1.00. "The special work of the Meissen at present is to secure money for the Hahnemann Monument Fund."

The New England Hahnemann Association. Organized 1894. The annual meeting is held in Boston, on the second Monday in January of each year. Another meeting, of a social character, is held in Boston, on the anniversary of Hahnemann's birthday of each year, April 11th. President, Col. Henry S. Russell, Malden, Mass.; Secretary, I. Tisdale, Talbot, M.D. 687 Boylston Street, Boston, Mass. Number of members, 425; admitted last year, 10. Annual dues, $2.00. Delegate, John H. Payne, M.D. Publishes *The Bulletin of Medical Instruction.*

American Homœopathic Pharmaceutical Association. Organized 1899. Not incorporated. The annual meeting is held in different places, in May of each year. President, J. Wilkinson Clapp, M.D., St. Paul and Francis Streets, Brookline, Mass.; Secretary, William G. Jennings, Chicago, Ill. Number of members, 23. "The American Pharmaceutical Association is an organization of the Homœopathic pharmacists of the United States, its object being to elevate Homœopathic pharmacy in general, and to take action on the Pharmacopœa, also to bring about more uniformity in Homœopathic preparations."

Homœopathic Pharmaceutical Association of Pennsylvania. Organized 1881. Incorporated 1881. The annual meeting is held in Philadelphia. President, J. F. Slough, M.D., Allentown, Pa.; Secretary, E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Number of members, 33.

General Homœopathic Hospitals in the United States.

Alaska.

Sitka Mission Hospital. Not incorporated. Opened for patients 1890. Executive Officer, B. K. Wilbur, Sitka, Alaska. Number of beds, 22. Number of the patients treated last year, 1089; cured, 904; relieved, 142; died, 43. Estimated value of hospital property, $5,500. Supported by patients' fees and donations by Presbyterian Board of Home Missions. "The hospital is main-

tained in connection with the Indian Training School. Native girls are trained for nursing. Work is principally among the native Alaskans."

California.

Fabiola Hospital Association, Oakland. Incorporated, 1877. Opened for patients 1877. Executive Officer, Mrs. John Yule, Chicago Avenue, East Oakland, Cal. Number of beds, 75. Number of patients treated last year, 610; cured, 466; relieved, 87; not relieved, 15; died, 42. Supported by contributions and pay from private patients. "There is a very successful training school for nurses carried on in connection with the hospital. A Maternity Cottage is in the process of erection, and we hope soon to occupy it. Both schools of medicine are represented on our Medical and Surgical Staff."

Good Samaritan Hospital, San Diego. Not incorporated. Opened for patients 1889. Executive Officer, Thomas Docking, M.D., 164 Boston Avenue, San Diego, Cal. The hospital is closed for the time being.

Homœopathic Sanitarium, San Francisco. Not incorporated. Opened for patients 1896. Executive Officer, William Boericke, M.D., 1812 Washington Street, San Francisco, Cal.

Canada.

Montreal Homœopathic Hospital, Montreal. Not incorporated. Opened for patients 1893. Executive Officer, A. R. Griffith, M.D., 763 Wellington Street, Montreal, Canada. Number of beds, 40. Number of patients treated last year, 203; cured, 196; died, 7. Value of hospital property, $25,000. Supported by pay of patients, endowment fund, and voluntary contributions.

Colorado.

Denver Homœopathic Hospital. Incorporated 1894. Opened for patients 1895. Executive Officer, Samuel S. Kehr, M.D., California Building, Denver, Col. Number of beds, 27. Number of patients treated last year, 119; cured, 113; died 6. Value of hospital property, $30,000. Supported by charity, pay of patients and Denver Homœopathic College.

Connecticut.

Grace Homœopathic Hospital, New Haven. Incorporated 1889. Opened for patients 1892. Executive Officer, E. J. Walker, M.D., New Haven, Conn. Number of beds, 75. Number of patients treated last year, 381; cured, 310; relieved, 26; not relieved, 16; died, 29. Value of hospital property, $100,000. Supported by State appropriations, benefactions, pay of patients.

Crest View Sanitarium, Greenwich. Not incorporated. Opened for patients 1894. Executive Officer, Henry M. Hitchcock, M.D., Greenwich, Conn. Number of beds, 25. Number of patients last year, 34; cured, 7; relieved, 22; not relieved, 4; died, 1. Value of hospital property, $50,000. Supported by pay of patients.

Elmcroft, Enfield. Not incorporated. Opened for patients 1890. Executive Officer, E. S. Vail, M.D., Enfield, Conn.

Grey Towers, Stamford. Executive Officer, Frank H. Barnes, M.D., Stamford, Conn., and 107 West Forty-eighth Street, New York City.

Dr. Givens' Sanitarium, Stamford Hall, Stamford. Not incorporated.

Opened for patients 1891. Executive Officer, Amos J. Givens, M.D., Stamford, Conn. Number of beds, 100. Value of hospital property, $75,000. Supported by pay of patients.

Delaware.

Homœopathic Hospital of Delaware, Wilmington. Incorporated 1888. Opened for patients 1888. Executive Officer, Mrs. Emma G. Quigley, Jefferson and Eighth Streets, Wilmington, Del. Number of beds, 40. Number of patients treated last year, 69; cured, 60; relieved, 5; died, 4. Value of hospital property, $30,000. Supported by annual subscriptions, donations, pay of patients, and Training School. Delegate, Lewis W. Flinn, M.D. "The hospital is now entirely free from debt, two friends having lifted a $9,000 mortgage. We are making extensive improvements to operating room, and are building an electric elevator."

District of Columbia.

National Homœopathic Hospital Association, Washington. Incorporated 1881. Opened for patients 1884. Executive Officer, Ira W. Dennison, M.D., 1326 L Street, N. W., Washington, D. C. Number of beds, 50. Number of patients treated last year, 942; cured, 801; relieved, 104; not relieved, 11; died, 26. Value of hospital property, $50,000. Supported by Congressional appropriation, pay of patients, and donations. Delegate, William R. King, M.D.

Florida.

St. Luke's Hospital, Homœopathic Department, Jacksonville. Incorporated 1882. Opened for patients 1882. Executive officer, Mrs. Washington, Jacksonville, Fla. Number of patients treated last year, 4; died, 1. Value of hospital property, $8,000. Supported by contributions and pay of patients. Delegate, Henry R. Stout, M.D.

Illinois.

Cook County Hospital, Homœopathic Department, Chicago. Incorporated 1867. Opened for patients 1867. Executive Officer, James H. Graham, Cook County Hospital, Chicago. Number of beds, 1080. Number of patients treated last year, 4091. Value of hospital property, $1,500,000. Supported by city appropriations. Delegate, Charles Gatchell, M.D.

Hahnemann Hospital, Chicago. Incorporated 1855. Opened for patients 1870. Executive Officer, George F. Shears, M.D., 3130 Indiana Avenue, Chicago, Ill. Number of beds, 170. Number of patients treated last year, 1024; cured, 785; relieved, 120; died, 120. Value of hospital property, $150,000. Supported by pay of patients, donations, endowments. Delegate, George F. Shears, M.D.

Chicago Homœopathic Hospital, Chicago. Incorporated 1876. Opened for patients 1876. Executive Officer, Judson E. Hetherington, M.D., 1035 Warren Avenue, Chicago, Ill. Value of hospital property, $30,000. Supported by pay of patients, Training School and voluntary contributions.

Streeter's Hospital, Chicago. Incorporated 1888. Opened for patients 1888. Executive Officer, John W. Streeter, M.D., 2646 Calumet Avenue, Chicago, Ill. Number of beds, 30. Number of patients treated last year, 270; cured, 223; relieved 32; not relieved, 11; died, 4. Value of hospital

property, $65,000. Supported by pay of patients. Delegate, John W. Streeter, M.D.

West Chicago Sanitarium, Chicago. Incorporated 1892. Opened for patients 1892. Executive Officer, Mark M. Thompson, M.D., 805 Monroe Street, Chicago, Ill. Number of beds, 10. Number of patients treated last year, 100; cured, 90; relieved, 5; not relieved, 4; died, 1. Value of hospital property, $40,000. Supported by pay of patients. "Treatment is exclusively with one Homœopathic remedy. No alcohol is used." Delegate, A. C. Cowperthwaite, M.D.

Indiana.

O. S. Runnels' Private Hospital, Indianapolis, Not incorporated. Opened for patients 1891. Executive Officer, O. S. Runnels, M.D., 522 North Illinois Street, Indianapolis, Ind. Number of beds, 20. Number of patients treated last year, 95; cured, 79; relieved, 10; not relieved, 2; died, 4. Value of hospital property, $30,000. Supported by pay of patients. Delegate, O. S. Runnels, M.D.

Iowa.

Homœopathic Hospital of the State University of Iowa, Iowa City. Incorporated 1887. Opened for patients 1887. Executive Officer, James G. Gilchrest, M.D., 215 College Street, Iowa City, Iowa. Number of beds, 54. Number of patients treated last year, 500; cured, 388; relieved, 93; not relieved, 14; died, 5. Value of hospital property, $50,000. Supported by State appropriations and board of patients. Delegate, T. L. Hazard, M.D.

St. Bernard's Hospital, Homœopathic Department, Council Bluffs. Incorporated 1888. Opened for patients 1888. It is under the supervision of the Sisters of Mercy. Delegate, Phineas J. Montgomery, M.D.

Woman's Christian Association Hospital, Homœopathic Department, Council Bluffs. Incorporated 1894. Opened for patients 1883. Executive Officer, Mrs. E. A. Ryerson, Council Bluffs, Iowa. Number of beds, 30. Number of patients treated last year, 49; cured, 40; relieved, 4; died, 5. Value of hospital property, $30,000. Supported by pay of patients, and voluntary contributions. Delegate, A. P. Hanchett, M.D. "Patients of physicians of all schools are admitted on equal terms."

Maryland.

Baltimore Homœopathic Sanitarium, Baltimore. Not incorporated. Opened for patients 1893. Executive Officer, Flora A. Brewster, M.D., 1221 Madison Avenue, Baltimore, Md. Number of beds, 7. Number of patients treated last year, 30; cured, 25; relieved, 4; died, 1. Value of hospital property, $2,500. Supported by pay of patients. "I am negotiating for a site upon which to erect a Sanitarium in the suburbs of Baltimore, of one hundred rooms at least."

Dr. Barnard's Private Sanitarium, Baltimore. Not incorporated. Opened for patients 1897. Executive Officer, James S. Barnard, M.D., 2112 Charles Street, North, Baltimore, Md. Number of patients treated last year, 44; cured, 37; relieved, 6; not relieved, 1. Supported by pay of patients. Delegate, James S. Barnard, M.D.

Maryland Homœopathic Hospital, Baltimore. Incorporated 1899. Opened for patients 1890. Executive Officer, John T. Graham, 223 St. Paul Street,

Baltimore, Md. Number of beds, 37. Number of patients treated last year, 913; cured, 602; relieved, 267; not relieved, 26; died, 18. Value of hospital property, $40,000. Supported by State and city appropriations and voluntary contributions. "We have built additions and made improvements by which our capacity has been increased 50 per cent. We have put in an entire new system of plumbing, a new steam-heating apparatus, and all of our rooms are thoroughly ventilated. We have also added a large operating room and auditorium for clinics for the students of the college; all of this has been done at a cost of over $10,000. Our prospects are very bright. We have the good-will of our city authorities, who have charge of the city poor, because, as they say, of our treatment of the cases sent to us."

Dr. Irving Miller's Sanitarium, Baltimore. Not incorporated. Opened for patients 1895. Executive Officer, Irving Miller, M.D., 1927 St. Paul Street, Baltimore, Md. Number of beds, 15. Number of patients treated last year, 212; cured, 189; relieved, 14; died, 9. Value of hospital property, $10,000. Supported by pay of patients. "All the work done was surgical; 189 abdominal operations, excluding three brought in in a dying state. The average mortality has been in abdominal work, 4½ per cent. Dr. Thomas L. Shearer has lately associated himself with me, and devoting himself to throat surgery."

Carroll Springs Sanitarium, Forest Glen. Not incorporated. Opened for patients 1887. Executive Officer, George H. Wright, M.D., Forest Glen, Md. Number of beds, 20. Number of patients treated last year, 51; cured, 42; relieved, 5; not relieved, 2; died, 2. Value of hospital property, $25,000. Supported by pay of patients. "The Sanitarium is open from May to December."

Massachusetts.

Masachusetts Homœopathic Hospital, Boston. Incorporated 1885. Opened for patients 1871. Executive Officer, I. Tisdale Talbot, M.D., 687 Boylston Street, Boston, Mass. Number of beds, 220. Number of patients treated last year, 1792; cured, 1420; relieved, 257; not relieved, 47; died, 68. Value of Hospital property, $350,000. Supported by funds and pay patients. Delegate, I. Tisdale Talbot, M.D. "The last year has been one of great prosperity and growth."

Rufus S. Frost General Hospital, Homœopathic Department, Chelsea. Incorporated 1890. Opened for patients 1890. Executive Officer, A. W. Brown, Chelsea, Mass. Number of beds, 30. Value of hospital property $27,000. Delegate, J. E. Blaisdell, M.D.

Lowell General Hospital, Homœopathic Department, Lowell. Incorporated 1891. Opened for patients 1893. Value of hospital property, $50,000. Supported by endowed beds, voluntary contributions and board of private patients. Number of beds, 40. Number of patients treated last year, 280; cured, 185; relieved, 71; not relieved, 12; died, 12. Delegate, G. Forrest Martin, M.D. "The Homœopathic staff consists of six members, as heretofore, Dr. George L. Van Deusen having been elected to fill the vacancy caused by the death of Dr. Horatio M. Hunter. We also have one surgeon, Dr. G. Forrest Martin, on the regular Surgical Staff. Dr. G. A. Augustin, of Jersey City, a graduate of the New York Homœopathic Medical College and Hospital, of the Class of 1899, has just been elected as House Officer for the year 1899-1900."

Malden Hospital, Homœopathic Department, Malden. Incorporated 1890. Opened for patients 1892. Executive Officer, Miss Caroline Barritt, 11 Concord Avenue, Malden, Mass. Number of beds, 40. Number of patients treated last year, 249; cured, 209; relieved, 17; not relieved, 3; died, 20. Value of hospital property, $100,000. Supported by invested funds and pay of patients. Delegate, J. Krauss, M.D. "This hospital is open alike to physicians of both schools of medicine, and surgery, and is conducted as fairly as such an institution possibly could be."

Newton Hospital, Homœopathic Department, Newton. Incorporated 1881. Opened for patients 1886. Executive Officer, E. P. Scales, M.D., Newton, Mass. Number of beds, 150. Number of patients treated last year, 184; cured, 149; relieved, 22; not relieved, 2; died, 11. Value of hospital property, $190,000. Supported by endowment funds, donations, subscriptions, paying patients, earnings of nurses outside. Delegate, N. Emmons Paine, M.D. "The cases treated include contagious cases, diphtheria, scarlet fever, measles, and seven obstetric cases. Four new buildings have been erected during the past year, at an expense of $52,000, donated by friends of the hospital. Homœopathy and Allopathy are not separated in the administration of the hospital, only in treatment of the patients. We would mention the extreme and uniform courtesy shown by the Matron and nurses throughout the entire hospital, and we cannot but feel that the Hospital Corporation has great reason to be proud of its Training School, not only in the making of efficient nurses, but ladylike ones as well. The cordiality among all in attendance, regardless of school, is an old story, still we think it might surprise one who has been brought up in strict sectarian lines."

Newton Sanatorium, Newton. Not incorporated. Opened for patients 1894. Executive Officer, N. Emmons Paine, M.D., West Newton, Mass. Number of patients treated last year, 21; cured, 21. Delegate, N. Emmons Paine, M.D.

Somerville Hospital, Homœopathic Department, Somerville. Incorporated 1891. Opened for patients 1893. Executive Officer, Miss Fanny C. Hartwell, City Hospital, Somerville, Mass. Number of beds, 40. Number of patients treated last year, 83; cured, 59; relieved, 16; not relieved, 2; died, 6. Value of hospital property, $50,000. Supported by endowment funds, pay of patients, city appropriations, free beds, which are supported by societies, clubs and private individuals. Delegate, Frank L. Newton, M.D. "The Hospital Corporation is organized, and its general management is by a Board of Trustees, who are represented by an Executive Committee, who appoint a Matron, who resides at the hospital, and have the immediate charge of it. The Medical Board is composed of physicians from both schools of medicine, are chosen by the Executive Committee, and are the admitting physicians. They appoint a Staff, comprising six of each school and assistants by request of the Staff. The patients elect by whom they will be treated, but in case of their having no choice, they are assigned by rotation to the two schools; the rules and regulations provide for equal rights, one physician from each Staff being on duty at the same time. The Out-Department treated 101, the results of which are very difficult to report."

City Hospital of Quincy, Homœopathic Department, Quincy. Incorporated 1889. Opened for patients 1890. Executive Officer, Timothy Reed, Quincy, Mass. Delegate, H. C. Hallowell, M.D.

Worcester Hahnemann Hospital, Worcester. Incorporated 1896. Opened

for patients 1896. Executive Officer, John K. Warren, M.D., 68 Pleasant Street, Worcester, Mass. Number of beds, 18. Number of patients treated last year, 75; cured, 69; died, 6. Value of hospital property, $25,000. Supported by pay patients and voluntary contributions. Delegate, John K. Warren, M.D.

Worcester Homœopathic Hospital and Dispensary, Worcester. Executive Officer, E. A. Fisher, M.D., Elm Street, Worcester, Mass. The hospital is not yet opened for patients.

Michigan.

Homœopathic Hospital of the University of Michigan. Incorporated 1874. Opened for patients 1875. Executive Officer, Roy S. Copeland, M.D., 46 Catharine Street, Ann Arbor, Mich. Number of beds, 60. Number of patients treated last year, 1200; cured, 1127; relieved, 62; not relieved, 7; died, 4. Value of hospital property, $45,000. Supported by State appropriations.

The Grace Hospital, Detroit. Incorporated 1888. Opened for patients 1888. Executive Officer, A. T. Putnam, Grace Hospital, Detroit, Mich. Number of beds, 100. Number of patients treated last year, 1148; cured, 917; relieved, 125; not relieved, 43; died, 63. Value of hospital property, $330,000. Supported by endowment fund, paying patients.

Reed City Sanitarium, Reed City. Not incorporated. Opened for patients 1895. Executive Officer, A. B. Spinney, M.D., Reed City, Mich. Number of beds, 100. Number of patients treated last year, 110; cured, 88; relieved, 17; not relieved, 2; died, 3. Value of hospital property, $25,000. Supported by pay from patients. Delegate, E. W. Spinney, M.D. "A Training School for Nurses open March 1, 1899, in connection with the Sanitarium."

Missouri.

Good Samaritan Homœopathic Hospital and Asylum of St. Louis. Incorporated 1858. Opened for patients 1858. Executive Officer, Henry Wiebusch, 631 South Fourth Avenue, St. Louis, Mo. Number of beds, 80. Number of patients treated last year, 182; cured, 105; relieved, 59; not relieved, 0; died, 23. Value of hospital property, $55,000. Supported by paying patients, legacies, and donations. "The hospital nurses some 40 babies with chronic diseases and feebleness, which is the cause of the small number of patients."

Montana.

Dr. Blackburn's Hospital, Butte. Not incorporated. Opened for patients 1892. Executive Officer, G. E. Blackburn, M.D., corner of Main and Cooper Streets, Butte, Mont. Number of beds, 30. Number of patients treated last year, 138; cured, 138. Supported by pay of patients.

New Jersey.

Galen Hall, Atlantic City. No report.

West New Jersey Homœopathic Hospital, Camden. Incorporated 1887. Opened for patients 1887. Executive Officer, Wilfred M. Kaighn, 250 Mount Vernon Street, Camden, N. J. Number of beds, 25. Number of patients

treated last year, 105; cured, 105. Value of hospital property, $7,000. Supported by voluntary contributions. Delegate, Wallace McGeorge, M.D.

Brookside Retreat, Plainfield. Incorporated 1891. Opened for patients 1889. Executive Officer, Justus H. Cooley, M.D., Plainfield, N. J. Value of hospital property, $50,000. Supported by pay of patients.

Plainfield Sanitarium, Plainfield. Not incorporated. Opened for patients 1879. Executive Officer, Justus H. Cooley, M.D., Plainfield, N. J. Value of hospital property, $22,000. Supported by pay of patients.

Trenton Homœopathic Hospital, Trenton. Incorporated 1887. Opened for patients 1888. Executive Officer, E. B. Witte, M.D., 425 East State Street, Trenton, N. J. Number of beds, 75. "The new hospital just completed will not be occupied until autumn, except for private patients."

New York.

Albany City Homœopathic Hospital, Albany. Incorporated 1868. Opened for patients 1868. Executive Officer, J. W. Cox, 109 State Street, Albany, N. Y. Delegate, Edward G. Cox, M.D.

Brooklyn Homœopathic Hospital, Brooklyn. Incorporated 1852. Opened for patients 1853. Executive Officer, Frank W. Arnold, 117 Montague Street, Brooklyn, N. Y. Value of hospital property, $165,000. Supported by city appropriations and voluntary contributions. Number of beds, 130. Number of patients treated last year, 971; cured, 641; relieved, 187; not relieved, 56; died, 87. Delegate, Alton G. Warner, M.D.

Muncie Sanatorium, Brooklyn. Not incorporated. Opened for patients 1895. Executive Officer, E. H. Muncie, M.D., corner of Macon Street and Marcy Avenue, Brooklyn, N. Y. Supported by paying patients. Number of beds, 24. Number of patients treated last year, 1136; cured, 1110; relieved, 24; died, 2.

Twenty-sixth Ward Homœopathic Hospital, Brooklyn. Incorporated 1899. Opened for patients 1899. Executive Officer, H. O. Rockefeller, M.D., 152 Jerome Street, Brooklyn, N. Y. Value of hospital property, $7,000. Supported by voluntary contributions and city appropriations. Number of beds, 25. Delegate, H. O. Rockefeller, M.D.

Muncie Seaside Sanitarium, Babylon. Not incorporated. Opened for patients 1897. Executive Officer, E. H. Muncie, M.D., corner of Mason Street and Marcy Avenue, Brooklyn, N. Y. Value of hospital property, $25,000. Supported by pay of patients. Number of beds, 58. Number of patients treated last year, 122; cured, 120; died, 2.

City Hospital, Homœopathic Department, Binghamton. Not incorporated. Opened for patients 1887. Executive Officer, William S. Sawyer, Binghamton, N. Y. Value of hospital property, $49,000. Supported by city appropriations and pay of patients. Number of beds, 40. Number of patients treated last year, 311; cured, 206; relieved, 53; not relieved, 21; died, 31. Delegate, Lynn A. Martin, M.D. "Under Homœopathic care during the months of December, January, February and March; under Allopathic care the remaining eight months of the year."

Buffalo Homœopathic Hospital, Buffalo. Incorporated 1872. Opened for patients 1872. Executive Officer, Charles J. North, 51 Johnson Park, Buffalo, N. Y. Value of hospital property, $16,000. Supported by private rooms, ward patients, city and county appropriations, donations, endowed beds. Number

of beds, 46. Number of patients treated last year, 519; cured, 366; relieved, 103; not relieved, 14; died, 36.

Lexington Heights Hospital, Buffalo. Incorporated 1891. Opened for patients 1890. Executive Officer, De Witt G. Wilcox, M.D., 173 Lexington Avenue, Buffalo, N. Y. Value of hospital property, $25,000. Supported by pay of patients. Number of beds, 14. Number of patients treated last year, 117; cured, 91; relieved, 11; not relieved, 12; died, 3. Delegate, De Witt G. Wilcox, M.D.

Homœopathic Hospital and Dispensary, Mount Vernon. Executive Officer, J. A. House, M.D. 136 Park Avenue, Mount Vernon, N. Y. The hospital has not yet been opened for patients.

Flower Hospital, New York. Incorporated 1889. Opened for patients 1889. Executive Officer, J. Perry Seward, M.D., 113 West Eighty-fifth Street, New York City. Value of hospital property, $275,000. Supported by voluntary contributions and city appropriations. Number of beds, 88. Number of patients treated last year, 3391; cured, 1098; relieved, 1679; not relieved, 226; died, 88. Delegate, Timothy F. Allen, M.D.

Hahnemann Hospital, New York City. Incorporated 1869. Opened for patients 1869. Executive Officer, John H. Thompson, M.D., 56 East Thirtieth Street, New York City. Value of hospital property, $165,000. Supported by interest on invested fund, bequests, donations, paying patients. Number of beds, 120. Number of patients treated last year, 971; cured, 809; relieved, 122; not relieved, 18; died, 22. Delegate, John H. Thompson, M.D.

Harlem Homœopathic Hospital, New York City. The hospital has not yet been opened for patients.

Laura Franklin Hospital for Children, New York City. Incorporated 1886. Opened for patients 1886. Executive Officer, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Value of hospital property, $100,000. Supported by pay of patients and endowment fund. Number of beds, 50. Number of patients treated last year, 166; cured, 164; died, 2. Delegate, J. Wilford Allen, M.D.

Metropolitan Hospital, Blackwell's Island, New York City. Executive Officer, George Taylor Stewart, M.D., Metropolitan Hospital, New York City. Supported by city appropriations. Number of beds, 577. Number of patients treated last year, 6413; cured, 2119; relieved, 3635; not relieved, 233; died, 426. "Of the 426 deaths reported, a very large proportion of them were from phthisis, and many of them were brought into the hospital on a stretcher and died within three or four days, so that they were not put under treatment."

Hargous Memorial Hahnemann Hospital, Rochester. Incorporated 1889. Opened for patients 1889. Executive Officer, W. H. H. Rogers, care of Rochester Brick and Tile Co., Rochester, N. Y. Value of hospital property, $25,000. Supported by pay of patients, donations, voluntary contributions. Number of beds, 30. Number of patients treated last year, 156; cured, 53; relieved, 54; not relieved, 33; died, 16. Delegate, G. W. Thompson, M.D.

Rochester Homœopathic Hospital, Rochester. Incorporated 1887. Opened for patients 1889. Executive Officer, William A. Hubbard, 16 Phelps Avenue, Rochester, N. Y. Value of hospital property, $500,000. Supported by annual subscriptions, board of patients, endowed beds. Number of beds, 100. Number of patients treated last year, 1506; cured, 1140; improved, 218; not improved, 61; died, 87. Delegate, Edwin H. Wolcott, M.D.

Syracuse Homœopathic Hospital, Syracuse. Incorporated 1895. Opened for patients 1897. Executive Officer, E. Elmer Keeler, M.D., 423 East Jefferson Street, Syracuse, N. Y. Supported by endowments, subscriptions and board of private patients. Number of beds, 15. Number of patients treated last year, 188; cured, 163; relieved, 16; died, 9. "The percentage of deaths in surgical cases was 4.77."

Utica Homœopathic Hospital, Utica. Incorporated 1895. Opened for patients 1895. Executive Officer, George S. Dana, 92 Genesee Street, Utica, N. Y. Value of hospital property, $18,000. Supported by donations and paying patients. Number of beds, 11. Number of patients treated last year, 128; cured, 96; relieved, 23; not relieved, 2; died, 7. "Our hospital is small, but the work done is the best; the public appreciates a good thing."

Ohio.

Cleveland Homœopathic Hospital, Cleveland. Incorporated 1867. Opened for patients 1867. Executive Officer, Harlan Pomeroy, M.D., 526 Prospect Street, Cleveland, Ohio. Value of hospital property, $100,000. Supported by donations and pay of patients. Number of beds, 100. Number of patients treated last year, 1169; cured, 920; relieved, 202; died, 47. "During the year 210 soldiers were treated, with only one death."

Sixth Avenue Private Hospital, Columbus. Executive Officer, W. B. Carpenter, M.D., 657 North High Street, Columbus, Ohio. Value of hospital property, $20,000. Supported by pay of patients. Number of beds, 15. Number of patients treated last year, 61; cured, 59; relieved, 1; died, 1. Delegate, W. B. Carpenter, M.D.

Toledo Hospital, Homœopathic Department, Toledo. Incorporated 1878. Opened for patients 1874. Executive Officer, Mrs. A. E. Scott, 721 Ontario Street, Toledo, Ohio. Value of hospital property, $125,000. Supported by board of patients and donations. Number of beds, 75. Number of patients treated last year, 558; cured, 508; died, 50. "The Toledo Hospital has two Medical Staffs connected with it, Regular and Homœopathic, each separate and distinct; it also has a Training School for Nurses, which this year graduated 13 nurses."

Dr. C. E. Sawyer Sanitarium, Marion. Incorporated 1895. Opened for patients 1895. Executive Officer, Charles E. Sawyer, M.D., Marion, Ohio. Value of hospital property, $70,000. Supported by pay of patients. Number of beds, 75. Number of patients treated last year, 260; cured, 159; died, 1. Delegate, Charles E. Sawyer, M.D.

Oregon.

Portland Hospital Portland. "The hospital has been closed by order of the court. We shall start a new hospital soon, having been given land valued at $50,000, for that purpose."

Pennsylvania.

Elmwood Hall, Elmhurst. Incorporated 1898. Opened for patients 1898. Executive Officer, W. H. H. Bull, M. D., Elmhurst, Pa. Value of hospital property, $110,000. Supported by the board and treatment of patients. Number of beds, 150.

Easton Sanitarium, Easton. Incorporated 1894. Opened for patients 1894. Executive Officer, James P. Pursell, M.D., Easton, Pa. Value of hospital property, $25,000. Supported by pay of patients. Number of beds, 25. Number of patients treated last year, 38; cured, 26; relieved, 10; not relieved, 1; died, 1. Delegate, James P. Pursell, M.D.

Children's Homœopathic Hospital of Philadelphia. Incorporated 1877. Opened for patients 1877. Executive Officer, N. F. Lane, M.D., 1435 Poplar Street, Philadelphia, Pa. Value of hospital property, $45,000. Supported by State appropriations, general contributions and invested funds. Number of beds, 60. Number of patients treated last year, 145; cured, 89; relieved, 51; died, 5. "The Institution will be removed to the new building, on Franklin Street; the value of the new hospital property is $110,000."

Hahnemann Medical College Hospital, Philadelphia. Incorporated 1869. Opened for patients 1871. Executive officer, William G. Foulke, Franklin Building, Philadelphia, Pa. Value of hospital property, $723,000. Supported by endowments, board of patients, voluntary contributions. Number of beds, 200. Number of Patients treated last year, 1921; cured, 1448; relieved, 361; not relieved, 30; died, 82. "During the Spanish-American war, 98 in-patients, and 142 out-patients were sick or wounded soldiers." Delegate, Charles Mohr, M.D.

Medical, Surgical and Maternity Hospital of Woman's Homœopathic Association of Pennsylvania, Philadelphia. Incorporated 1882. Opened for patients 1884. Executive Officer, Mrs. F. B. Skinner, Provident Building Philadelphia, Pa. Value of hospital, $240,000. Supported by annual subscriptions, donations, small endowment fund, fairs. Number of beds, 80. Number of patients treated last year, 587; cured, 458; relieved, 80; not relieved, 16; died, 33; 16 of these deaths were children under 3 months old. "We find ever increasing proof in our work of the grand results of pure Homœopathic treatment. In the early autumn we admitted 50 very ill soldiers who all went out cured with no sores or other bad resulting effects."

St. Luke's Homœopathic Hospital, Philadelphia. Incorporated 1896. Opened for patients 1896. Executive Officer, A. M. Barnes, M.D., 3517 North Broad Street, Philadelphia, Pa. Value of hospital property, $11,000. Supported by voluntary contributions. Number of beds, 15. Number of patients treated last year, 301; cured, 242; relieved, 21; not relieved, 6; died, 32.

Woman's Southern Homœopathic Hospital, Philadelphia. Incorporated 1896. Opened for patients 1896. Executive Officer, Anna Miller, Philadelphia, Pa. Value of hospital property, $12,000. Supported by voluntary contributions. Number of beds, 30. Number of patients treated last year, 175; cured, 155; relieved, 9; not relieved, 1; died, 10. Delegate, Eliza Lang McClure, M.D.

Homœopathic Medical and Surgical Hospital of Pittsburg. Incorporated 1866. Opened for patients 1866. Executive Officer, Col. W. D. Slack, Homœopathic Hospital, Pittsburg, Pa. "Value of hospital property, $272,000. Supported by pay of private patients, State aid, and voluntary contributions. Number of beds, 200. Number of patients treated last year, 1880; cured, 1280; relieved, 415; not relieved, 65; died, 120. Delegate, James H. McClelland, M.D.

Homœopathic Medical and Surgical Hospital of Reading. Incorporated 1890. Opened for patients 1891. Executive Officer, W. W. Light, 35 North

Sixth Street, Reading, Pa. Value of hospital property, $30,000. Supported by State appropriations, and other sources. Number of beds, 20.

Hahnemann Homœopathic Hospital, Scranton. Incorporated 1897. Opened for patients 1897. Executive Officer, Mrs. Henry Belin, Jr., Scranton, Pa. Supported by State aid, and private subscriptions. Number of beds, 30. Number of patients treated last year, 151; cured, 96; relieved, 43; not relieved, 3; died, 9. Delegate, John W. Coolidge, M.D.

Walter's Sanitarium, Walter's Park, Pa. Not incorporated. Opened for patients 1877. Executive Officer, Robert Walter, M.D., Walter's Park, Pa. Value of hospital property, $150,000. Supported by pay of patients. Number of beds, 150. Number of patients treated last year, 500; cured, 472; relieved, 27; died, 1. Delegate, Robert Walter, M.D.

Rhode Island.

Rhode Island Homœopathic Hospital, Providence. Incorporated 1878. Opened for patients 1886. Executive Officer, Albert C. Day, 155 Canal Street, Providence, R. I. Value of hospital property, $60,000. Supported by board of patients, and benefactions. Number of beds, 70. Number of patients treated last year, 277; cured, 241; relieved, 25; died, 11. Delegate, George B. Peck, M.D.

Vermont.

The Sparhaw Sanitarium, Burlington. Not incorporated. Opened for patients 1887. Executive Officer, G. E. E. Sparhaw, M.D. 150 Bank Street, Burlington, Vt. Value of hospital property, $55,000. Supported by pay of patients. Number of beds, 35. Number of patients treated last year, 132; cured, 124; relieved, 5; died, 3. Delegate, G. E. E. Sparhawk, M.D. "We began with 10 beds, and now have 35."

Wisconsin.

Pennoyer Sanitarium, Kenosha. Incorporated 1889. Opened for patients 1890. Executive Officer, N. A. Pennoyer, M.D., Kenosha, Wis. Value of hospital property, $125,000. Supported by pay of patients. Number of beds, 100. Number of patients treated last year, 460; cured, 295; relieved, 161; died, 4. Delegate, N. A. Pennoyer, M.D.

Special Homœopathic Hospitals and Institutions.

California.

Southern California State Hospital, Patton. Incorporated 1889. Opened for patients 1892. Executive Officer, Merritt B. Campbell, M.D., Patton, Cal. Value of hospital property, $500,000. Supported by Legislative appropriation, receipts from farm, and pay from patients. Number of beds, 575. Number

of patients treated last year, 575; cured, 49; relieved, 640; not relieved, 4; died, 40. Delegate, Merritt B. Campbell, M.D.

Armitage Home, San Francisco. Executive Officer, L. A. Wadham, 530 California Street, San Francisco, Cal. Supported by State aid, charity and bequests. Number of beds, 180. Delegate, Guy S. Manning, M.D.

Maria Kip Orphanage, San Francisco. Incorporated 1890. Opened for inmates 1890. Executive Officer, Mrs. T. P. Woodward, 2741 Pine Street, San Francisco, Cal. Value of Institution property, $50,000. Supported by State aid, charity and bequests. Number of beds, 150. Delegate, Guy S. Manning, M.D.

San Francisco Nursery for Homeless Children, San Francisco. Incorporated 1892. Opened for inmates 1878. Executive Officer, Mrs. W. E. Jackson, Hotel St. Nicholas, San Francisco, Cal. Value of Institution property, $7,000, in building fund. Supported by State aid, charity and bequests. Number of beds, 80. Number of patients treated last year, 78; cured, 78. "This Institution was formerly under Allopathic treatment, but was changed to the Homœopathic in 1891, in consequence of the large death-rate under the old treatment." Delegate, Guy S. Manning, M.D.

Colorado.

Denver Orphan's Home, Denver. Incorporated 1880. Opened for inmates 1881. Executive Officer, Mrs. Oliver C. Kasslen, Denver, Col. Value of Institution property, $75,000. Supported by city appropriations and voluntary contributions. Number of beds, 12. Number of patients treated last year, 27; cured, 24; died, 3. Delegate, S. F. Shannon, M.D.

Sick Babies' Summer Hospital, Denver. Number of patients treated last year, 14; cured, 11; died, 13. Delegate, Samuel F. Shannon, M.D.

Illinois.

Chicago Nursery and Half-Orphan Asylum, Chicago. Incorporated 1865. Opened for inmates 1865. Executive Officer, Mrs. Franklin H. Beckwith. Plaza Hotel, Chicago, Ill. Supported by voluntary contributions. Number of beds, 182.

Chicago Foundling Home, Chicago. Incorporated 1872. Opened for inmates 1871. Executive Officer, Mrs. Fannie E. Shipman, 120 South Wood Street, Chicago, Ill. Value of Institution property, $100,000. Supported by voluntary contributions. Number of beds, 64. Number of patients treated last year, 377; cured, 368; not relieved, 2; died, 7. "The Home is open, free of charge, to all homeless mothers and babies, legitimate or illegitimate, regardless of nationality, color or creed. The work is entirely undenominational, being connected with and sustained by no church, and while religious instruction is given to all, it does not favor any sect or denomination. The doors are also open to any infant abandoned on our streets, where the mother is unknown. The mother must remain with the baby until it is adopted—if she insist on giving it up—or at the end of five weeks she may leave if she wishes, but she must take the baby with her. By adhering to this rule the baby is well started in life, being properly nourished, and an opportunity is given for helping the mother in various ways. We lay great stress upon the mother's keeping her child and holding her responsible for its welfare; it elevates the woman and brings out her best qualities. If she leaves the Home

with a good character, she is welcome to return at any time (except in case of a second similar offense) and is made to feel at home. Thus all excuse for a second offense is removed."

Skiles' Orificial Sanitarium, Chicago. Incorporated 1893. Opened for patients 1893. Executive Officer, Hugh P. Skiles, M.D., 963 West Monroe Street, Chicago, Ill. Value of hospital property, $40,000. Supported by fees of patients.

Illinois Western Hospital for the Insane, Watertown. Opened for patients 1898. Executive Officer, W. E. Taylor, M.D., Watertown, Ill. Number of beds, 622. "This Institution is conducted strictly as a hospital and nothing but Homœopathic remedies are given. We use potencies, and never give but one remedy. This is the only institution in the State managed wholly by our school of medicine, and I do not wish to appear to be doing anything in the way of exalting our treatment until after a more extensive demonstration. We are gaining considerable notoriety through our patients, and we certainly hope that it will be lasting. In talking with the Governor a short time ago, he said that he had some doubts about our cures being permanent, as they seem too extensive and too good to be true. We have received an appropriation for the purpose of building a special hospital or infirmary, which we hope to have completed by fall."

Iowa.

Home for Aged Women, Cedar Rapids. Incorporated 1888. Opened for inmates 1888. Executive Officer, C. H. Cogswell, M.D., 65 Second Avenue, Cedar Rapids, Iowa. Value of Institution property, $14,000. Supported by endowment and interest on invested funds. Number of beds, 26. Number of patients treated last year, 6; cured, 2; relieved, 2; died, 2. Delegate, C. H. Cogswell, M.D.

Home for the Friendless, Cedar Rapids. Incorporated 1886. Opened for patients 1884. Executive Officer, Mrs. G. T. Van Vechten, Cedar Rapids, Iowa. Value of Institution property, $4,500. Supported by charity. Number of beds, 20. Number of patients treated last year, 43; cured, 37; died, 7. Delegate, C. H. Cogswell, M.D.

Iowa School for the Deaf, Council Bluffs. Incorporated 1875. Opened for inmates 1878. Executive Officer, Henry W. Rothert, Council Bluffs. Value of Institution property, $200,000. Supported by State tax and special appropriation. Number of beds, 40. Number of patients treated last year, 240; cured, 240. Delegate, A. P. Hanchett, M.D. "This Institution is the State school for deaf children. All children have had Homœopathic treatment for the past eleven years. The average attendance has been 300 per year. The total number of deaths in eleven years has been three. There have been no deaths for the past three years."

Des Moines Home for Friendless Orphans, Des Moines. Incorporated 1887. Opened for inmates 1887. Executive Officer, Mrs. E. B. Whitcomb, 719 Fifteenth Street, Des Moines, Iowa. Value of Institution property, $15,000. Supported by voluntary contributions.

State Reform School, Eldora. Incorporated 1868. Opened for inmates 1868. Executive Officer, B. J. Miles, Eldora, Iowa. Value of Institution property, $150,000. Supported by State appropriations. Number of beds, 510. Number of patients treated last year, 102; cured, 102.

Massachusetts.

Boothby Surgical Hospital, Boston. Not incorporated. Opened for patients 1889. Executive Officer, Alonzo Boothby, M.D., 508 Commonwealth Avenue, Boston, Mass. Value of hospital property, $50,000. Supported by pay of patients. Number of beds, 35. Number of patients treated last year, 198; cured, 161; relieved, 24; not relieved, 6; died, 7. Delegate, Alonzo Boothby, M.D. "Three of the deaths were from incurable cancer, 1 from gangrene, which was allowed to go too long before the patient was brought to the hospital, and 1 patient, who died within twelve hours after being brought in, having had no operation."

Cullis Consumptives' Home, Dorchester, Boston. Incorporated 1878. Opened for patients 1864. Executive Officer, Rev. E. D. Mallory, Dorchester, Mass. Value of hospital property, $275,000. Supported by voluntary offerings. Number of beds, 40. Number of patients treated last year, 153; relieved, 9; not relieved, 79; died, 65. "Ours is a Home for Incurables without means or friends able to care for them."

Talitha Cumi Home of the New England Moral Reform Society, Boston. Incorporated 1846. Opened for patients 1836. Executive Officer, Caroline M. Otis, 204 West Brookline Street, Boston, Mass. Value of Institution property, $30,000. Small portion paying patients, largely charity. Number of beds, 29. Number of patients treated last year, 73; cured, 73. "This Home is a maternity home for unmarried girls; average time in the Home is twelve weeks." Delegate, Caroline M. Hastings, M.D.

Framingham Nervine, Framingham. Not incorporated. Opened for patients 1896. Executive Officer, Ellen L. Keith, M.D., Framingham, Mass. Value of hospital property, $15,000. Supported by pay of patients. Number of beds, 16. Number of patients treated last year, 32; cured, 9; relieved, 15; not relieved, 7; died, 1. Delegate, Ellen L. Keith, M.D.

Ayer Home for Young Women and Children, Lowell. Incorporated 1875. Opened for inmates 1875. Executive Officer, Mrs. A. G. Bouviere, Lowell, Mass. Value of Institution property, $40,000. Supported by voluntary contributions and a legacy. Number of beds, 52. Number of patients treated last year, 76; cured 76. Delegate, G. Forrest Martin, M.D. "During the past year there have been severe house epidemics of measles, whooping cough and diphtheria, besides minor sicknesses, but no deaths. The treatment is entirely Homœopathic."

Newton Nervine, West Newton. Not incorporated. Opened for patients 1892. Executive Officer, N. Emmons Paine, M.D., West Newton, Mass. Value of hospital property, $37,500. Supported by pay of patients. Number of beds, 18. Number of patients treated last year, 39; cured, 13; relieved, 20; not relieved, 6. Delegate, N. Emmons Paine, M.D.

Massachusetts Hospital for Consumptives and Tubercular Diseases, Rutland. Opened for patients 1898. Incorporated 1895. Executive Officer, Walter J. Mareley, M.D., Rutland, Mass. Number of beds, 175. Value of hospital property, $250,000. Supported partly by some paying patients, but mostly by State appropriations. Delegate, Herbert C. Clapp, M.D. "This is a State Institution, of which we are very proud, as it is the first Sanatorium for Consumptives in America to be supplied by the public money. It is copied after the famous German Sanatoria at Goerbusdorf and Falkenstein. Patients have choice of treatment, either Allopathic or Homœopathic."

Wellesley Nervine, Wellesley. Not incorporated. Opened for patients 1897. Value of hospital property, $25,000. Supported by pay of patients and consultation fees. Executive Officer, Edward H. Wiswall, M.D., Wellesley, Mass. Number of beds, 11. Number of patients treated last year, 24; cured, 12; relieved, 3; not relieved, 8; died, 1.

Westboro Insane Hospital, Westboro. Incorporated 1884. Opened for patients 1886. Executive Officer, George S. Adams, M.D., Westboro, Mass. Value of hospital property, $437,500. Supported by State appropriation, product of the farm, and friends of patients. Number of beds, 630. Number of patients treated last year, 765; cured, 55; relieved, 570; not relieved, 98; died, 42. Delegate, George S. Adams, M.D.

Michigan.

Michigan State Asylum, Ionia. Not incorporated. Opened for patients 1885. Executive Officer, O. B. Long, M.D., Ionia. Value of hospital property, $182,129. Supported by State and County appropriations. Number of beds, 260. Number of patients treated last year, 284; cured, 15; relieved, 203; not relieved, 52; died, 14. Delegate, O. R. Long, M.D.

Minnesota.

Fergus Falls State Hospital for the Insane, Fergus Falls. Incorporated 1887. Opened for patients 1890. Executive Officer, George O. Welch, M.D., Fergus Falls, Minn. Value of hospital property, $807,000. Supported by Legislative appropriations. Number of beds, 1250. Number of patients treated last year, 1335; cured, 87; relieved, 1139: not relieved, 55; died, 54. Delegate, George O. Welch, M.D.

Maternity Hospital, Minneapolis. Incorporated 1887. Opened for patients 1896. Executive Officer, Martha G. Ripley, M.D., 24 South Tenth Street Minneapolis, Minn. Value of hospital property, $25,000. Supported by pay of patients, voluntary contributions and donations. Number of beds, 20. Number of patients treated last year, 175; cured, 170; died, 5, infants. Delegate, Martha G. Ripley, M.D. "We have the finest location for a hospital in the city, with five beautiful acres of land, a good building of twenty rooms. This is a place of great possibilities, but a great debt of $13,000 encumbers us."

Washburne Memorial Asylum, Minneapolis. Incorporated 1883. Opened for inmates 1886. Executive Officer, Charles J. Martin, Minneapolis, Minn. Value of asylum property, $150,000. Supported by bequest of C. C. Washburne, amounting to $484,000.

Sheltering Arms, Minneapolis. Incorporated 1882. Opened for inmates 1882.

Church Home, St. Paul. Incorporated 1897. Opened for inmates 1896. Executive Officer, Miss Louisa Rees, 406 Fifteenth Street, Minneapolis, Minn. Number of beds, 6. Supported by board of inmates and voluntary contributions.

Missouri.

State Lunatic Asylum, No. 1, Fulton. Incorporated 1850. Opened for patients 1851. Executive Officer, James T. Coombs, M.D., Fulton. Value of hospital property, $500,000. Supported by legislative appropriations and guardians supporting wards. Number of beds, 850. Number of patients

treated last year, 951; cured, 114; relieved, 780; not relieved, 6; died, 51. Delegate, James T. Coombs, M.D. "Condition of the Asylum is very good. A greater per cent, cured than ever before in the history of the Institution. Cost of running the Institution less than in any previous year; so low has it been that this is the first year when a special appropriation from the Legislature has not been asked for."

St. Louis Children's Hospital, St. Louis. Incorporated 1879. Opened for patients 1880. Executive Officer, Charles H. Goodman, M.D., 3329 Washington Avenue, St. Louis, Mo. Value of hospital property, $25,000. Supported by voluntary contributions. Delegate, Charles H. Goodman, M.D.

New York.

Albany House of Shelter, Albany. Incorporated 1869. Opened for inmates 1868. Executive Officer, Mary L. Dare, 52 Howard Street, Albany, N. Y. Value of Institution property, $20,000. Supported mostly by private contributions and a small revenue from public funds. Number of beds, 29. Number of patients treated last year, 194; cured, 160; relieved, 24; not relieved, 8; died, 2. Delegate, Edward G. Cox, M.D.

Brooklyn Nursery and Infant's Hospital, Brooklyn. Incorporated 1871. Opened for patients 1871. Executive Officer, Mrs. Henry F. Alen, 34 Hanson Place, Brooklyn, N. Y. Value of hospital property, $40,000. Supported by voluntary contributions. Number of beds, 34. Number of patients treated last year, 381; cured, 211; relieved, 10; not relieved, 20; died, 90. Delegate, F. E. Risley, M.D. "Among the many friends whose hearts were saddened to learn of the sudden death of Mr. William H. H. Childs, on the morning of Monday, April 25th, there were no sincerer mourners than the officers and managers of the Brooklyn Nursery and Infant's Hospital, for to this Institution he had been a benefactor in the highest sense of the word. At Easter, in the year 1892, in memory of his wife, Maria Eversley Childs, he presented to the Institution houses and land adjoining the Brooklyn Nursery, on Herkimer Street, valued at $15,000 (without restrictions), to be known and used as the Infants' Hospital. Mr. Childs expressed his strong desire to see before long a hospital for the care of sick babies, worthy of its name and work, erected in place of the house used at present. This gift did not satisfy his generous heart, for year by year came timely checks, with the simple words, 'Don't let the little sick babies want for anything in winter's cold or summer's heat.' Mr. Childs has left us a precious legacy in his expressed wish that some day, not far away, we shall rear a hospital complete and requisite to work in all its appointments. When such rich giving as his is revealed to us as coming from one man guided by the precious memory of a good woman, we know that other hearts and purses are interested and open, and that in time his hopes and ours will be realized. We have a small fund started for a new hospital building, which we are sorely in need of, and which we hope friends will contribute to, so that we can build in part if not all we wish, in the near future."

Brooklyn Home for Consumptives, Homœopathic Department, Brooklyn. Incorporated 1881. Opened for patients 1881. Executive Officer, Mrs. Frank Reynolds, 61 Cumberland Place, Brooklyn, N. Y. Value of hospital grounds, $90,000. Supported by endowment, private collections and $5,000 from the city. Number of beds, 94. Number of patients treated last year, 67; cured,

1; relieved, 42; not relieved, 6; died, 18. "This is a joint institution, three physicians from each school making up the Staff. Patients when admitted make their choice of kind of medical attention preferred, and are assigned accordingly." Delegate, Walter B. Winchell, M.D.

Memorial Hospital for Women and Children, Brooklyn. Incorporated 1883. Opened for patients 1886. Executive Officer, Mrs. J. H. Burtis, 121 Quincy Street, Brooklyn. N. Y. Value of hospital property, $150,000. Supported by donations, city appropriations, collections of Managers, voluntary contributions, and pay of patients. Number of beds, 70. Number of patients treated last year, 580; cured, 354; relieved, 178; not relieved, 13; died, 35.

St. Martha's Sanitarium and Dispensary, Brooklyn. Incorporated 1889. Opened for patients 1889. Executive Officer, Mrs. C. C. Abbe, 1311 Dean Street, Brooklyn, N. Y. Value of hospital property, $30,000. Supported by board of patients and annual appropriations by the city. Number of beds, 30. Number of patients treated last year, 31; cured, 2; relieved, 18; died, 11.

The Bethany House, Brooklyn. Incorporated 1895. Opened for patients 1893. Executive Officer, Miss Thomassine Mary Kearney. Value of hospital property, $9,000. Supported by board of inmates and private contributions. Number of beds, 8. Number of patients treated last year, 6; cured, 1; relieved, 5. This institution is the annex of St. Martha's Sanitarium, and is designed as a home for patients having chronic and incurable diseases; it is also designed for semi-invalids and convalescents; a very few acute cases are sometimes received.

Geneva Hygienic Institute, Geneva. Not incorporated. Opened for patients 1854. Executive Officer, James C. Knapp, M.D., Geneva, N. Y. Number of beds, 80.

Gowanda State Homœopathic Hospital, Gowanda. Incorported 1895. Opened for patients 1898. Executive Officer, Daniel H. Arthur, M.D., Gowanda, N. Y. Value of hospital property, $500,000. Supported by State appropriations. Number of beds, 300. Number of patients treated last year, 280. Delegate, Daniel H. Arthur, M.D.

Interpines, Goshen. Incorporated 1890. Opened for patients 1890. Executive Officer, Frederick W. Seward, M.D., Goshen, N. Y. Value of hospital property, $50,000. Supported by pay of patients. Number of beds, 15. Number of patients treated last year, 21; cured, 6; relieved, 7; not relieved, 7; died, 1. Delegate, Frederick W. Seward, M.D.

Liberty Homœopathic Sanitarium for Tuberculosis, Liberty. Opened for patients, 1898. Executive Officer, Howard Percy Deady, M.D., Liberty, N. Y. Value of hospital property, $25,000. Supported by pay of patients. Number of patients treated last year, 37; cured, 11; relieved, 19; not relieved, 5; died, 2.

Middletown State Homœopathic Hospital, Middletown. Incorporated 1879. Opened for patients 1874. Executive Officer, Seldon H. Talcot, M.D., Middletown, N. Y. Value of hospital property, $1,137,000. Supported by State appropriations and pay of private patients. Number of beds, 1240. Number of patients treated last year, 1411; cured, 75; relieved, 1242; not relieved, 17; died, 77. Delegate, Seldon H. Talcott, M.D.

Asylum for the Relief of Half-Orphan and Destitute Children, New York City. Incorporated 1835. Opened for inmates 1835. Executive Officer, Mrs. John L. Sutherland, 17 West Thirty-seventh Street, New York City. Delegate, A. M. Woodward, M.D.

Baptist Home for the Aged, Homœopathic Department, New York City. Incorporated 1869. Opened for inmates 1869. Executive Officer, Mrs. Theron R. Butler, 433 Fifth Avenue, New York City. Number of beds, 120. Number of patients treated last year, 24; cured, 17; died, 7. Supported by the Baptist Churches in New York City. Delegate, H. Everett Russell, M.D.

Chapin Home for the Aged and Infirm, Homœopathic Department, New York City. Incorporated 1869. Opened for inmates 1869. Executive Officer, Mrs. Solon Palmer, 266 Bergen Avenue, Jersey City, N. J. Value of Institution property, $150,000. Supported by bequests and voluntary contributions. Number of beds, 60. Delegate, John B. Garrison, M.D.

Helmuth House, New York City. Not incorporated. Opened for patients 1886. Executive Officer, William Tod Helmuth, Jr., M.D., 465 Lexington Avenue, New York City. Value of hospital property, $100,000. Supported by pay of patients. Number of beds, 25. Number of patients treated last year, 211; cured, 173; relieved, 32; not relieved, 3; died, 3. Delegate, William Tod Helmuth, Jr., M.D.

Hospital of Five Points House of Industry, New York City. Incorporated 1854. Opened for inmates, 1860. Executive Officer, L. E. Walker, M.D., 155 Worth Street, New York City. Value of Institution property, $45,000. Supported by voluntary contributions. Number of beds, 80. Number of patients treated last year, 1511; cured, 1000; relieved 402; not relieved, 102; died, 7.

Laidlaw's Private Hospital, New York City. Not incorporated. Opened for patients 1859. Executive Officer, A. H. Laidlaw, M.D., 137 West Forty-first Street, New York City. Value of hospital property, $50,000. Supported by pay of patients. Number of beds, 12. Number of patients treated last year, 53; cured, 41; relieved, 11; died, 1. Delegate, A. H. Laidlaw, M.D.

New York Ophthalmic Hospital, New York City. Incorporated 1852. Opened for patients 1852. Executive Officer, Frank H. Boynton, M.D., 36 West Fiftieth Street, New York City. Value of hospital property, $100,000. Supported by rents of offices and voluntary contributions. Number of beds, 60. Number of patients treated last year, 564; cured, 456; relieved, 98; not relieved, 8; died, 2. Delegate, Frank H. Boynton, M.D.

New York Medical College and Hospital for Women, New York City. Incorporated 1863. Opened for patients 1863. Executive Officer, D. H. Morris, Westchester, N. Y. Value of hospital property, $50,000. Supported by contributions and board of patients. Number of beds, 20. Number of patients treated last year, 198; cured, 130; relieved, 43; not relieved, 12; died, 3. Delegates, M. Belle Brown, M.D., Henry M. Dearborn, M.D.

The West Side Clinic and Hospital, New York City. Executive Officer, Charles Ward Townsend, M.D., 144 West Forty-sixth Street. The hospital has not yet been opened for patients.

Glenmary, Owego. Incorporated 1897. Opened for patients 1889. Executive Officer, John T. Greenleaf, M.D., Owego, N. Y. Value of hospital property, $110,000. Supported by pay of patients. Number of beds, 50. Number of patients treated last year, 46; cured, 24; relieved, 14; not relieved, 8. Delegate, Lewis D. Hyde, M.D.

Homœopathic Home and Maternity, Yonkers. Incorporated 1896. Opened for patients 1896. Executive Officer, Miss Adele Van Alstine, Yonkers, N. Y. Value of hospital property, $8,500. Supported by city appropriations, pay of patients, donations and voluntary contributions. Number of beds, 10. Num-

ber of patients treated last year, 126; cured, 95; relieved, 25; died, 6. Delegate, Russell P. Fay, M.D.

Ohio.

Ohio Hospital for Women and Children, Cincinnati. Incorporated 1881. Opened for patients 1882. Executive Officer, Mrs. Robert Hoard, Clifton, Cincinnati, Ohio. Value of hospital property, $20,000. Supported by membership dues, bequests, entertainments and voluntary contributions. Number of beds, 19. Number of patients treated last year, 109; cured, 68; relieved, 32; not relieved, 3; died, 6. Delegate, Ellen M. Kirk, M.D.

Cleveland Bethany Home for Children, Cleveland. Incorporated 1895. Opened for inmates 1894. Executive Officer, Mrs. M. C. Worthington, 985 Euclid Avenue, Cleveland, Ohio. Value of Institution property, $10,000. Supported by donations, entertainments and voluntary contributions. Number of beds, 30. Number of patients treated last year, 31; cured, 30; died, 1. "The bequest of $10,000 of Mrs. M. A. Bradley has been used the past year in the purchase of a fine location and house for our work. The house is well furnished. Four years ago a number of ladies pledged themselves to this work of caring for the children. The thought to-day is, have we kept this pledge? True, we have fed, during that time, and clothed and cared for, 120 children, who sadly needed the care. Of these, 94 have, by careful surgical, medical and home treatment, been restored to comfortable health, and returned to friends, or have found other homes. But, the thought at this time is not of them, but of ourselves. All service for Christ, if entered upon earnestly and conscientiously, implies an opportunity for growth in spirituality and capacity for usefulness. To-day we are entering upon a new, an untried path. Dare we enter it without seeking Divine aid, resolving with the Lord's help to make the coming year more fruitful in good works than the past has been? 'We have not passed this way before,' and do not know what is before us. We do know that if we calmly and trustingly obey the command to 'go forward,' as becomes faithful followers of our Lord Jesus Christ, 'He will guide us in judgment, and teach us His ways.'" Delegate, Harlan Pomeroy, M.D.

Maternity Hospital, Cleveland. Incorporated 1892. Opened for patients 1891. Executive Officer, Mrs. A. G. Carpenter, 125 Streator Avenue, Cleveland, Ohio. Value of hospital property, $6,000. Supported by pay of patients, donations and subscriptions. Number of beds, 7. Number of patients treated last year, 32; cured, 32. Delegate, Martha A. Canfield, M.D. "The hospital was formerly connected with the Homœopathic College of this city, but is now independent of that Institution."

Dorcas Invalids' Home for Incurables, Cleveland. Incorporated 1885. Opened for inmates 1885. Executive Officer, Mrs. G. J. Jones, 1068 Case Avenue, Cleveland, Ohio. Value of Institution property, $50,000. Supported by endowments and voluntary contributions. Number of beds, 32. Number of patients treated last year, 50; relieved, 45; died, 5. Delegate, Gaius J. Jones, M.D. "The Dorcas Society was organized in 1867, and incorporated in 1885, when the Invalids' Home was opened as a charitable institution. The Home is situated at 600 East Madison Avenue, and is unincumbered. The money to pay for the property was given by the generous people of Cleveland. The house shelters 32 invalids, helpless and incurable. Some are suffering with rheumatism, crippled and in pain; others are laid aside for life, old and stricken with blindness. These are women who have been self-respecting and

willing to do their part in the world, but illness has rendered them helpless, and alone in the world they turn to us for shelter and care until called to join their loved ones in the home above. Needless to say, but two or three of these are paying anything towards their support. This is the work of the Dorcas Society, to make and keep a home for life for those who need the care of loving hands and hearts. The expenses of the Home are about $350 per month, and a generous public has so far kept up this Institution through the agency of the Dorcas Society. Nurses and physicians are supplied; the physicians give their services to aid the poor. To enable the ladies of this Society to avoid the humiliation of becoming daily beggars, they have concluded to create Honorary Memberships at $10 per annum."

Oregon.

Boys' and Girls' Aid Society of Oregon, Portland. Incorporated 1885. Opened for inmates 1886. Executive Officer, William T. Gardner, Portland, Ore. Value of Institution property, $15,000. Supported by endowment fund and State appropriation. Number of beds, 60. Number of patients treated last year, 31; cured, 27; relieved, 3; died, 1. Delegate, Byron E. Miller, M.D.

Children's Home, Portland. Incorporated 1870. Opened for inmates 1870. Value of Institution property, $50,000. Supported by endowment fund, State appropriations, and private subscriptions. Number of beds, 100. Number of patients treated last year, 39; cured, 39. Delegate, Henry C. Jefferds, M.D.

Pennsylvania.

Boys' Boarding Home, Allegheny. Incorporated 1886. Opened for inmates 1887. Executive Officer, Mrs. Detwiler, 62 Anderson Street, Allegheny, Pa. Value of Institution property, $60,000. Supported by board of boys and voluntary contributions.

Christian Home for Women, Allegheny. Incorporated 1872. Opened for inmates 1872. Executive Officer, Mrs. M. G. Slater, 133 Locust Street, Allegheny, Pa. Value of Institution property, $50,000. Supported by pay of inmates and voluntary contributions.

Convent of Benedictine Sisters, Erie. Not incorporated. Opened for inmates 1865. Executive Officer, Mother Superior, 322 East Minot Street, Erie, Pa. Supported by voluntary contributions. Number of beds, 10. Number of patients treated last year, 171; cured, 153; relieved, 16; not relieved, 2. Delegate, Edward Cranch, M.D.

Home for the Aged Poor, conducted by Little Sisters of the Poor, Pittsburg. Incorporated 1874. Opened for inmates 1884. Value of Institution property, $150,000. Supported by voluntary contributions. Executive Officer, Mother Superior of the Little Sisters of the Poor, Premen and Rebecca Streets, Pittsburg, Pa. Number of beds, 170. Delegate, L. G. Rousseau, M.D.

Protestant Home for Incurables, Homœopathic Department, Pittsburg. Incorporated 1883. Opened for inmates 1885. Executive Officer, Mrs. A. Long, 236 Shady Avenue, Pittsburg, Pa. Value of Institution property, $100,000. Supported by endowment fund, admission fees and voluntary contributions. Number of beds, 70. Number of patients treated last year, 40; relieved, 35; died, 5. Delegate, James H. Thompson, M.D.

Wisconsin.

Milwaukee House of Mercy, Milwaukee. Incorporated 1888. Opened for inmates 1888. Executive Officer, Miss Julia Kurtz, Fourth and Walnut Streets, Wilwaukee, Wis. Value of Institution property, $15,000. Supported by voluntary contributions. Number of beds, 25. Delegate, Joseph Lewis, M.D.

Milwaukee Orphan Asylum, Milwaukee. Incorporated 1849. Opened for inmates, 1850. Executive Officer, Mrs. Frederick Weinecke, Jr., Milwaukee, Wis. Value of Institution property, $100,000. Supported by private philanthropy. Number of beds, 125. Number of patients treated last year, 130; cured, 129; died, 1. Delegate, Filip A. Forsbeck, M.D.

Homœopathic Dispensaries.

California.

Hahnemann Dispensary, San Francisco. Incorporated 1883. Opened for patients 1883. Executive Officer, William Boericke, M.D., 1812 Washington Streets, San Francisco, Cal. Number of patients treated last year, 2605. Number of prescriptions, 6327. Number of outside visits made, 159. Cost of conducting dispensary, last year, $800. Delegate, William Boericke, M.D.

Pacific Homœopathic Dispensary, San Francisco. Incorporated 1876. Opened for patients 1877. Executive Officer, Mrs. Marguerite McKee Clark, 636 Valencia Street, San Francisco, Cal. Number of patients treated last year, 4018. Number of prescriptions 11,852. Cost of conducting dispensary last year, $1,000. "A proposition was made from the Homœopathic College of San Francisco, some months ago, to our dispensary, the oldest and first incorporated in San Francisco, and to another quite flourishing dispensary, to unite with the College dispensary and form a polyclinic, which, after due deliberation, has been done."

Pacific Homœopathic Polyclinic, San Francisco.

Colorado,

Tabernacle Homœopathic Free Dispensary, Denver. Not incorporated. Opened for patients 1895. Executive Officer, Samuel F. Shannon, M.D., Jacobson Building, Denver, Col. Number of patients treated last year, 1309. Number of prescriptions, 2007. Number of outside visits made, 491. Delegate, Samuel F. Shannon, M.D.

Connecticut,

Homœopathic Free Dispensary, Bridgeport. Not incorporated. Opened for patients 1894. Executive Officer, David W. Ingalls, M.D., 309 State Street, Bridgeport, Conn. Number of patients treated last year, 645. Number of prescriptions, 1469. Number of outside visits made, 318.

Delaware,

Homœopathic Free Dispensary, Wilmington. Incorporated 1888. Opened for patients 1888. Executive Officer, Mrs. Emma G. Quigley, Eighth and

Jefferson Streets, Wilmington, Del. Number of patients treated last year, 692. Number of prescriptions last year, 1316. Delegate, Lewis W. Flinn, M.D.

Illinois,

Chicago Homœopathic Free Dispensary, Chicago. Incorporated 1876 Opened for patients 1876. Executive Officer, Judson E. Hetherington, M.D., 1035 Warren Avenue, Chicago, Ill.

Dunham Dispensary, Chicago. Incorporated 1895. Opened for patients 1895. Executive Officer, Herman W. Pierson, M.D., 6600 Gale Street, Chicago, Ill.

International Free Dispensary, Chicago. Incorporated 1895. Opened for patients 1895. Executive Officer, L. D. Rogers, M.D., 441 Dearborn Avenue, Chicago, Ill.

Mayflower Dispensary, Chicago. Not incorporated. Opened for patients 1896. Executive Officer, D. N. MacMullen, M.D., 6500 Wentworth Avenue, Chicago. Ill.

Iowa,

City Free Dispensary of Council Bluffs. Not incorporated. Opened for patients 1882. Executive Officer, Miss M. E. Bidwell, 217 Fourth Street, Council Bluffs, Iowa. Number of patients treated last year, 562. Number of prescriptions last year, 598. Number of outside visits made last year, 20. Delegate, Phineas J. Montgomery, M.D.

Maryland,

Maryland Homœopathic Hospital and Free Dispensary, Baltimore. Incorporated 1890. Opened for patients 1900. Executive Officer, John T. Graham, Baltimore, Md. Number of patients treated last year, 5302. Number of prescriptions last year, 31,283. Number of outside visits made last year, 2386. Cost of conducting dispensary last year, $1200. Delegate, J. S. Barnard, M.D. "Our work is increasing; our prospects are very good."

Southern Homœopathic College Dispensary, Baltimore. Incorporated 1890. Opened for patients 1891. Executive Officer, Charles C. Rumsey, M.D., 812 Park Avenue, Baltimore, Md. Number of patients treated last year, 3104. Number of prescriptions made last year, 5439. Delegate, Charles Leslie Rumsey, M.D.

Massachusetts,

Homœopathic Medical Dispensary, Boston. Incorporated 1856. Opened for patients 1857. Executive Officer, I. Tisdale Talbot, M.D., 687 Boylston Street, Boston, Mass. Number of patients treated last year, 16,150. Number of prescriptions last year, 48,406. Number of outside visits made last year, 3119. Cost of conducting dispensary last year, $5548.93. Delegate, Alonzo Boothby, M.D.

Homœopathic Medical Dispensary, Burrough's Place Branch, Boston. Incorporated 1856. Opened for patients 1857. Executive Officer, I. Tisdale Talbot, M.D., 687 Boylston Street, Boston, Mass. Number of patients treated last year, 207. Number of prescriptions last year, 1016. Cost of conducting dispensary last year, $74.24. Delegate, A. H. Powers, M.D.

Homœopathic Medical Dispensary, West End Branch, Boston. Incor-

porated 1856. Opened for patients 1872. Executive Officer. I. Tisdale Talbot, M.D., 687 Boylston Street, Boston, Mass. Number of patients treated last year, 1226. Number of prescriptions last year, 3752. Number of outside visits made last year, 110. Cost of conducting dispensary last year, $714.37. Delegate, Herbert C. Clapp, M.D.

Lowell Homœopathic Free Dispensary, Lowell. Not incorporated. Opened for patients 1894. Executive Officer, G. Forrest Martin, M.D., 17 Kirk Street, Lowell, Mass. Number of patients treated last year, 328. Number of prescriptions last year, 993. Delegate, S. S. Stephenson, M.D. "This Association now conducts its clinics at the Out Patient Department of the Lowell General Hospital, and its work for the last year was as follows. General Medicine, 547; Eye and Ear, 239; Gynæcological, 207."

Roxbury Homœopathic Dispensary, Roxbury. Executive Officer, William W. Davis, Norfolk House, Roxbury, Mass.' Number of patients treated last year, 971. Number of prescriptions last year, 2725. Number of outside visits made last year, 1931. Cost of conducting dispensary last year, $750.00. "A very large quantity of food was given to the sick poor by the Roxbury Diet Mission connected with this Dispensary."

Worcester Homœopathic Hospital and Dispensary Association, Worcester. Incorporated 1885. Opened for patients 1880. Executive Officer, Edgar A. Fisher, M.D., 121 Pleasant Street, Worcester, Mass.

Michigan,

The Grâce Hospital Dispensary, Detroit. Incorporated 1888. Opened for patients 1888. Executive Officer, R. Milton Richards, M.D., 230 West Willis Avenue, Detroit, Mich. Number of patients treated last year, 6217. Number of prescriptions last year, 14,132. Delegate, R. Milton Richards, M.D.

Minnesota,

University Homœopathic Free Dispensary, Minneapolis. Not incorporated. Opened for patients 1888. Executive Officer, George E. Ricker, M.D., Syndicate Block, Minneapolis, Minn.

Missouri,

Homœopathic Free Dispensary, St. Louis. Not incorporated. Opened for patients 1869. Executive Officer, James A. Campbell, M.D., 1729 Washington Avenue, St. Louis, Mo. Number of patients treated last year, 2840. Number of prescriptions last year, 8420. Number of outside visits made last year, 204. Cost of conducting dispensary last year, $240.00. Delegate, James A. Campbell, M.D.

Dispensary of Good Samaritan Homœopathic Hospital and Asylum of St. Louis. Executive Officer, Henry Wiebusch, St. Louis, Mo. Number of patients treated last year 829. Number of prescriptions last year, 2573.

New Jersey.

West New Jersey Homœopathic Hospital and Dispensary, Camden. Incorporated 1887. Opened for patients 1887. Executive Officer, Wilfred M. Kaighn, 250 Mount Vernon Street, Camden, N. J. Number of patients

treated last year 8776. Number of prescriptions last year, 24,593. Number of outside visits made last year, 2751. Cost of conducting dispensary last year, $3242.28. Delegate, Wallace McGeorge, M.D.

East Orange Homœopathic Dispensary, Orange, N. J. Incorporated 1883. Opened for patients 1883. Executive Officer, Miss Emma L. Lindsley, 115 Washington Street, East Orange, N. J. Number of patients treated last year, 379. Number of prescriptions last year, 1146. Cost of conducting dispensary last year, $324.32. "Six physicians are in attendance. People who are able to pay are not treated."

New York,

Albany City Homœopathic Hospital and Dispensary, Albany. Incorporated 1867. Opened for patients 1868. Executive Officer, James W. Cox, 160 State Street, Albany, N. Y. Number of patients treated last year, 3041. Number of prescriptions last year, 2985. Number of outside visits made last year, 684. Cost of conducting the dispensary last year, $500.00. Delegate, Edward G. Cox, M.D.

Brooklyn Homœopathic Hospital Dispensary, Brooklyn. Incorporated 1859. Opened for patients 1859. Executive Officer, William L. Love, M.D., 1188 Dean Street, Brooklyn, N. Y. Number of patients treated last year, 11,802. Number of prescriptions last year, 19,204. Cost of conducting the dispensary last year, $1500.00. Delegates, George W. Iler, M.D., Edwin Bedford, M.D.

Brooklyn, E. D. Homœopathic Dispensary. Incorporated 1872. Opened for patients 1872. Executive Officer, George V. Tompkins, 96 Wilson Street, Brooklyn, N. Y. Number of patients treated last year, 7078. Number of prescriptions last year, 23,146. Delegate, E. Rodney Fiske, M.D.

Central Homœopathic Dispensary, Brooklyn. Incorporated 1883. Opened for patients 1883. Executive Officer, Mrs. Henry M. Johnston, 67 Downing Street, Brooklyn, N. Y. Number of patients treated last year, 9,045. Number of prescriptions last year, 10,780. Number of outside visits made last year, 116. Cost of conducting the dispensary last year, $1545.00. Delegate, E. W. Avery, M.D.

St. Lazarus Free Dispensary, Brooklyn. Incorporated 1896. Opened for patients 1895. Executive Officer, Mrs. C. C. Abee, 1311 Dean Street, Brooklyn, N. Y. Number of patients treated last year, 658. Number of prescriptions last year, 1794.

Memorial Dispensary, Brooklyn. Incorporated 1894. Opened for patients 1883. Executive Officer, Mary L. Lines, M.D., 344 Washington Avenue, Brooklyn, N. Y. Number of patients treated last year, 4248. Number of prescriptions last year, 7133. Number of outside visits made last year, 576. Cost of conducting the dispensary last year, $2294.86. "Our dispensary has never done a larger or more satisfactory work than it is doing at the present time."

Gates Avenue Homœopathic Dispensary, Brooklyn. Incorporated 1867. Opened for patients 1867. Executive Officer, D. R. Aldridge, 32 Burling Slip, New York City. Number of patients treated last year, 5534. Number of prescriptions last year, 12,974. Number of outside visits made last year, 501. Cost of conducting the dispensary last year, $797.35. "Our business increased in 1898, with a fair prospect of a still further increase during 1899. The Institution is for the treatment of worthy poor without any charge."

Twenty-sixth Ward Homœopathic Dispensary, Brooklyn. Incorporated 1894. Opened for patients 1894. Executive Officer, S. E. Smith, M.D., 77 Arlington Avenue, Brooklyn, N. Y. Number of patients treated last year, 2723. Number of prescriptions last year, 4387. Number of outside visits made last year, 132. Delegate, H. O. Rockefeller, M.D. "We are re-incorporating to have also a hospital entitled 'The Twenty-sixth Ward Homœopathic Hospital and Dispensary.'"

Homœopathic Hospital and Dispensary of Mount Vernon. Incorporated 1896. Opened for patients 1895. Executive Officer, William B. Davis, M.D., 42 Park Avenue, Mount Vernon, N. Y. Number of patients treated last year, 61. Number of prescriptions last year, 95. Number of outside visits made last year, 206. Delegate, Nathan Cutting, M.D.

New York Homœopathic Medical College and Hospital Dispensary, New York. Incorporated 1861. Opened for patients, 1861. Executive Officer, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Closed temporarily.

Dispensary of the New York Medical College and Hospital for Women, New York City. Incorporated 1863. Opened for patients 1864. Executive Officer, Harriet D'E. Keatinge, M.D., 119 West Forty-seventh Street, New York City. Number of patients treated last year, 2322. Number of prescriptions last year, 7177.

Hahnemann Hospital, Out Poor Department, New York City. Incorporated 1875. Opened for patients 1891. Executive Officer, Clinton L. Bagg, M.D., 26 West Forty-fifth Street, New York City. Number of patients treated last year, 2638. Number of prescriptions last year, 4666. Delegate, Clinton L. Bagg, M.D.

Harlem Homœopathic Hospital, Outdoor Department, New York City. Incorporated 1898. Opened for patients 1896. Executive Officer, Joseph F. Land, M.D., 130 West One Hundred and Twenty-sixth Street, New York City. Number of patients treated last year, 1016. Number of prescriptions last year 2766.

Dispensary of New York Ophthalmic Hospital, New York City. Incorporated 1852. Opened for patients 1852. Executive Officer, Alfred Corr, 31 Broadway, New York City. Number of patients treated last year, 14,750. Number of prescriptions last year, 46,367. Delegate, Frank H. Boynton, M.D.

West Side Clinic and Hospital, New York City. Not incorporated. Opened for patients 1894. Executive Officer, Charles Ward Townsend, M.D., 144 West Forty-sixth Street, New York City.

Western Homœopathic Dispensary, New York City. Not incorporated. Opened for patients 1890. Executive Officer, David A. McMichael, 67 West Ninety-sixth Street, New York City.

Homœopathic Free Dispensary, Rochester. Incorporated 1887. Opened for patients 1889. Executive Officer, George A. Bachman, M.D., 167 South Avenue, Rochester, N. Y. Number of patients treated last year, 1795. Number of prescriptions last year, 5912. Delegate, Edwin H. Wolcott, M.D.

Syracuse Homœopathic Free Dispensary, Syracuse. Incorporated 1890. Opened for patients 1890. Executive Officer, C. E. Hinman, M.D., 114 Slocum Avenue, Syracuse, N. Y. Closed temporarily.

Ohio

Free Dispensary of the Ohio Hospital for Women and Children, Cincin-

nati. Incorporated 1881. Opened for patients 1881. Executive Officer, F. Irene Hurst, M.D., 549 West Seventh Street, Cincinnati, Ohio. Delegate, Laura C. Brickley, M.D.

Homœopathic Free Dispensary, Cincinnati. Incorporated 1867. Opened for patients 1867. Executive Officer, Charles E. Walton, M.D., Seventh and John Streets, Cincinnati, Ohio. Number of patients treated last year, 6940. Number of prescriptions last year, 22,322. Number of outside visits made last year, 315.

Free Medical and Surgical Dispensary for Women and Children, Cleveland. Incorporated 1895. Opened for patients 1878. Executive Officer, Martha M. Stone, M.D., 914 Prospect Street, Cleveland, Ohio. Number of patients treated last year, 4442. Number of prescriptions last year, 9886. Number of outside visits made last year, 1173. Cost of conducting the dispensary last year, $962.96.

Good Samaritan Dispensary, Cleveland. Incorporated 1849. Opened for patients 1849. Executive Officer, J. Richey Horner, M.D., 275 Prospect Street, Cleveland, Ohio. Number of patients treated last year, 14,789. Number of prescriptions last year, 26,493. Number of outside visits made last year, 870. Cost of conducting the dispensary work last year, $1,500.00. Delegate, A. B. Schneider, M.D.

Oregon

Dispensary of the Presbyterian Chinese Mission, Portland. Not incorporated. Opened for patients 1894. Executive Officer, W. S. Holt, M.D., 209 Second Street, Portland, Ore. Number of patients treated last year, 19. Number of prescriptions last year, 40. Cost of conducting the dispensary last year, $16.25. "We have been interrupted this year because of the absence of the Executive Officer, hence this poor report of work done."

Pennsylvania

Children's Homœopathic Hospital of Philadelphia, Out Patient Department. Incorporated 1877. Opened for patients 1877. Executive Officer, N. F. Lane, M.D., 1435 Poplar Street, Philadelphia, Pa. Number of patients treated last year, 35,287. Number of prescriptions last year, 59,178. Number of outside visits made last year, 2924. Cost of conducting the dispensary last year, $3.000.00. Delegate, Bushrod W. James, M.D.

Hahnemann Medical College Dispensary of Philadelphia. Incorporated 1848. Opened for patients 1848. Executive Officer, William G. Foulke, Franklin Building, Philadelphia, Pa. Number of patients treated last year, 27,871. Number of prescriptions last year, 106,768. Number of outside visits made last year, 1450. Delegate, Charles Mohr, M.D.

Dispensary of Post-Graduate School of Homœopathics, Philadelphia. Incorporated 1891. Opened for patients 1891. Executive Officer, William F. Kaercher, M.D., 1451 North Eleventh Street, Philadelphia, Pa. Number of patients treated last year, 4143. Number of prescriptions last year, 13,148. Cost of conducting the dispensary last year, $1500.00.

St. Luke's Homœopathic Dispensary, Philadelphia. Incorporated 1895. Opened for patients 1895. Executive Officer, George W. Stewart, M.D., Oak Lane, Philadelphia, Pa.

Dispensary of the Woman's Homœopathic Association of Pennsylvania,

Medical, Surgical and Maternity Hospital, Philadelphia. Incorporated 1883. Opened for patients 1883. Executive Officer, Mrs. F. B. Skinner, 803 Provident Building, Philadelphia, Pa. Number of patients treated last year, 5588. Number of prescriptions last year, 19,063. Number of outside visits made last year, 4845.

Woman's Southern Homœopathic Dispensary, Philadelphia, Pa. Incorporated 1896. Opened for patients 1896. Executive Officer, Miss Annie M. Miller, 1911 Mount Vernon Street, Philadelphia, Pa. Number of patients treated last year, 2197. Number of prescriptions last year, 141. Number of outside visits made last year, 3017.

Homœopathic Medical and Surgical Hospital and Dispensary of Pittsburg. Incorporated 1866. Opened for patients 1866. Executive Officer, D. G. Stewart, Pittsburgh, Pa. Number of patients treated last year, 19,464. Number of prescriptions last year, 51,892. Delegate, J. F. Cooper, M.D.

Homœopathic Medical and Surgical Dispensary, Reading. Incorporated 1891. Opened for patients, 1887. Executive Officer, H. F. Schantz, M.D., 402 North Fifth Street, Reading, Pa.

Rhode Island.

Providence Free Homœopathic Dispensary, Providence. Incorporated 1883. Opened for patients, 1874. Executive Officer, Charles Witter Bowen, 417 Westminster Street, Providence, R. I. Number of patients treated last year, 2982. Number of prescriptions last year, 3990. Outside visits made last year, 325. Cost of conducting the dispensary last year, $536.48. Delegate, George B. Peck, M.D.

Virginia.

Richmond Homœopathic Free Dispensary, Richmond. Incorporated 1897. Opened for patients 1897. Executive Officer, George F. Bagley, M.D., Richmond, Va. Number of patients treated last year, 2002. Number of prescriptions last year, 6071. Delegate, H. S. Corey, M.D., 312 West Grace Street, Richmond, Va.

Homœopathic Journals.

The American Homœopathist. Established 1876. Published semi-monthly, quarto form, by A. L. Chatterton & Co., 156 Fifth Avenue, New York City. Edited by Frank Kraft, M.D., 57 Bell Avenue, Cleveland, Ohio. Subscription price, $2.00. Thirty-two pages in each number.

The American Medical Monthly. Established 1883. Published monthly, octavo form, by Henry Chandlee, M.D., 704 West North Avenue, Baltimore, Md. Edited by Henry Chandlee, M.D., 704 West North Avenue, Baltimore, Md. Subscription price, $1.00. Eighty-eight pages in each number.

The Chironian. Established 1884. Published monthly during the College year, quarto form, by "The Chironian," Sixty-third Street, and Eastern Boulevard, New York City. Edited by J. E. Burt, Asbury Park, N. J. Subscription price, $1.00. Twenty-four pages in each number.

The Clinical Reporter. Established 1887. Published monthly, quarto form, by P. H. Felker, St. Louis, Mo. Edited by Isaac D. Foulen, M.D., East St. Louis, Ill. Subscription price, $1.00. Forty pages in each number.

The Clinique. Established 1880. Published monthly, octavo form, by

C. Gurnee Fellows, M.D., 70 State Street, Chicago, Ill. Edited by C. Gurnee Fellows, M.D., 70 State Street, Chicago, Ill. Subscription price, $2.00. Fifty-six pages in each number.

The Critique. Established 1894. Published monthly, octavo form, by the Denver Journal Publishing Co., Denver. Col. Edited by Samuel S. Smythe, M.D., 403 California Building, Denver, Col. Subscription price, $1.00. Forty pages in each number.

The Dunham Medical College Journal. Established 1899. Manager, E. D. Seaton, 370 South Wood Street, Chicago, Ill.

The Hahnemannian Advocate. Established 1895. Published monthly, octavo form, by the Hahnemann Publishing Co., 100 State Street, Chicago, Ill. Edited by Herman W. Pierson, M.D., 6600 Gale Street, Chicago, Ill. Subscription price, $2.00. One hundred and four pages in each number.

The Hahnemann Institute. Established 1893. Published monthly during College term, octavo form, by J. Torrington Black, Hahnemann Medical College, Philadelphia, Pa. Edited by Lewis H. Hendrixon, Hahnemann Medical College, Philadelphia, Pa. Subscription price, $1.00. Twenty-six to thirty-six pages in each number.

The Hahnemannian Monthly. Established 1865. Published monthly, octavo form, by Hahnemann Monthly Co. Philadelphia, Pa. Edited by William W. Van Baun, M.D., 1402 Spruce Street, Philadelphia, Pa. Subscription price, $3.00. Eighty-four pages reading matter in each number.

The Homœopathic Envoy. Established 1891. Published monthly, quarto form, by E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Edited by E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Subscription price, 25 cents. Eight pages in each number.

The Homœopathic Eye, Ear and Throat Journal. Established 1895. Published monthly, octavo form, by the Homœopathic Eye, Ear and Throat Journal Co., 111 East Seventieth Street, New York City. Edited by Arthur B. Norton, M.D., Charles H. Helfrich, M.D., John B. Garrison, M.D., George W. McDowell, M.D., New York City. Subscription price, $2.00. Thirty-two to sixty-four pages in each number.

The Homœopathic Guide. Established 1895. Published monthly, quarto form, by Allison Clokey, M.D., Second and Chestnut Streets, Louisville, Ky. Edited by Allison Clokey, M.D., Second and Chestnut Streets, Louisville, Ky. Subscription price, 50 cents. Twelve pages in each number.

The Homœopathic Journal of Obstetrics, Gynæcology and Pædology. Established 1879. Published bi-monthly, octavo form, by A. L. Chatterton & Co., 156 Fifth Avenue, New York City. Edited by B. F. Underwood, M.D., 156 Fifth Avenue, New York City. Subscription price, $4.00. One hundred and sixteen pages in each number.

The Homœopathic Physician. Established 1881. Published monthly. octavo form, by Walter M. James, M.D., 1231 Locust Street, Philadelphia, Pa. Edited by Walter M. James, M.D., 1231 Locust Street, Philadelphia, Pa. Subscription price, $2.50. Forty-eight pages in each number.

The Homœopathic Recorder. Established 1886. Published monthly, octavo form, by Boericke and Taefel, 1011 Arch Street, Philadelphia, Pa. Edited by E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Subscription price, $1.00. Forty-eight pages in each number.

The Journal of Electric Therapeutics. Established 1884. Published monthly, octavo form, by A. L. Chatterton & Co., 156 Fifth Avenue, New

York City. Edited by William H. King, M.D., 64 West Fifty-first Street, New York City. Subscription price, $2.00. Thirty-six pages in each number.

The Journal of Homœopathics. Established 1897. Published monthly, octavo form, by J. T. Kent, M.D., 2009 Walnut Street, Philadelphia, Pa. Edited by J. T. Kent, M.D., 2009 Walnut Street, Philadelphia, Pa. Subscription price, $2.00. Forty-eight pages in each number.

The Journal of Ophthalmology, Otology and Laryngology. Established 1889. Published quarterly, octavo form, by A. L. Chatterton & Co., 156 Fifth Avenue, New York City. Edited by Charles Deady, M.D., 110 West Forty-eighth Street, New York City. Subscription price, $4.00. One hundred pages in each number.

The Journal of Orificial Surgery. Established 1892. Published monthly, octavo form, by E. H. Pratt, M.D., 100 State Street, Chicago, Ill. Edited by E. H. Pratt, M.D., 100 State Street, Chicago, Ill. Subscription price, $2.00. Forty-eight pages of reading matter in each number.

The Medical Arena. Established 1892. Published monthly, octavo form, by A. E. Neumeister, M.D., 1214 Main Street, Kansas City, Mo. Edited by S. C. Delap, M.D., 1214 Main Street, Kansas City, Mo. Subscription price, $1.00. Thirty-two pages in each number.

The Medical Century. Established 1893. Published monthly, quarto form, by Medical Century Co., 9 East Forty-second Street, New York City. Edited by Charles E. Fisher, M.D., 100 State Street, Chicago, Ill. Subscription price, $3.00. Thirty-two pages in each number.

The Medical Counsellor. Established 1881. Published monthly, octavo form, by Medical Counsellor Publication Club, 32 Adams Avenue, West Detroit, Mich. Edited by Stephen H. Knight, M.D., 18 West Willis Avenue, Detroit, Mich. Subscription price, $1.00. Fifty pages in each number.

The Medical Era. Established 1883. Published monthly, large octavo form, by Era Publishing Co., Chicago, Ill. Edited by Charles Gatchell, M.D., 162 Thirtieth Street, Chicago, Ill. Subscription price, $1.00. Forty-eight pages in each number.

The Medical Student. Established 1886. Published monthly, quarto form, by Senior Students of the Boston University School of Medicine, Boston, Mass. Edited by Alberta Sylvia Boonhower, Boston University School of Medicine, Boston, Mass. Subscription price, $1.00. Twenty-four pages in each number.

The Medical Visitor. Established 1884. Published monthly, octavo form, by Halsey Bros. Co., 65 Washington Street, Chicago, Ill. Edited by Wilson A. Smith, M.D., Morgan Park, Ill. Subscription price, $1.00. Sixty-four pages in each number.

The Minneapolis Homœopathic Magazine. Established 1892. Published monthly, octavo form, by Magazine Publishing Co., 608 Nicollet Street, Minneapolis, Minn. Edited by Henry C. Aldrich, M.D., 313 Medical Block, Minneapolis, Minn. Subscription price, $1.00. Thirty-two pages in each number.

The New England Medical Gazette. Established 1865. Published monthly, octavo form, by Otis Clapp & Son, 10 Park Square, Boston, Mass. Edited by John L. Coffin, M.D., 229 Berkeley Street, Boston, Mass. Subscription price, $2.00. Forty-eight pages reading matter in each number.

The North American Journal of Homœopathy. Established 1852. Published monthly, octavo form, by Rooney & Otten Printing Co., 114 West

Thirtieth Street, New York City. Edited by Eugene H. Porter, M.D., 181 West Seventy-third Street, New York City. Subscription price, $3.00. From one hundred and twelve to one hundred and forty-eight pages in each number.

The Syracuse Clinic. Established 1898. Published bi-monthly, octavo form, by D. Mason & Co., Syracuse, N. Y. Edited by E. Elmer Keeler, M.D., 452 South Saline Street, Syracuse, N. Y. Subscription price, 25 cents. Thirty-six pages in each number.

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AMERICAN INSTITUTE OF HOMŒOPATHY.—STATISTICS OF COLLEGES AND MEDICAL SCHOOLS, 1898-99.

Name of College or Medical School.	When Incorporated.	When Opened to Students.	Name and Address of the Dean.	Length of Each Yearly Course & Time Course Commences.	Number of Courses Requisite for Graduation.	Number of Students in Attendance the Past Year.	Number of Graduates at Last Commencement.	Number of Alumni.	Number of Faculty.	Number of Professors.	Number of Lecturers.	Estimated value of College Buildings and Land.	Amount of Endowment.	Amount of Debt.	Amount of Annual Income.	Delegates.
1. Hahnemann Hospital College of San Francisco.	1883	1884	A. C. Peterson, M. D., 135 Geary St., San Francisco.	28 weeks. September.	Four	.....	.....	.....	15	....	3	.....	.....	.....	.....	
2. Denver Homœopathic Medical College and Hospital.	1894	1894	S. S. Smythe, M. D., 403 California Building, Denver, Col.	6 months. October.	Four	50	6	35	29	18	11	$35,000	.....	$15,000	.....	B. A. Wheeler, M. D. D. A. Strickler, M. D:
3. Hahnemann Medical College and Hospital of Chicago.	1855	1860	E. Stillman Bailey, M. D., 3034 Michigan Ave., Chicago, Ill.	6 months, Sept. 13th.	Four	198	56	2356	43	30	13	191,000	$100,000	50,000	$39,000	E. S. Bailey, MD. J. P. Cobb, M. D.
4. Chicago Homœopathic Medical College.	1876	1876 S'pt	J. R. Kippax, M. D., Pres't., 3154 Indiana Ave., Chicago, Ill.	6 months September.	Four	165	40	1012	52	22	30	125,000	.....	.....	43,000	J. R. Kippax, M. D. N. B. Delamater, M. D.
5. Hering Medical College.	1891	1892	H. C. Allen, M. D., 100 State St., Chicago, Ill.	8 months. Sept. 8, 9, & 10	Four	60	18	.....	37	22	15	30,000	.....	.....	.....	H. C. Allen, M. D. J. J. Thompson, M.D.
6. National Medical College. . . .	1891	1891	T. C. Duncan, M. D., 100 State St., Chicago, Ill.	6½ months.	Four	26	22	.....	....	....	....	.....	.....	.....	.....	T. C. Duncan, M. D.
7. Homœopathic Med. Dept. of the State University of Iowa.	....	1877	James G. Gilchrist, Registrar.	September. 6 months.	Four	69	8	200	14	10	4	50,000	.....	.....	7000	George Royal, M. D.
8. Southwestern Homœopathic College.	1892	1893	A. Light Monroe, M. D., 909 Fourth Ave., Louisville, Ky.	Sept. 14th. 6 months.	Four	25	5	40	15	15	8	.....	.....	.....	2000	A. L. Monroe, M. D. M. Dills, M. D. G. O. Erni, M. D.
9. Kansas City Homœopathic Medical College.	1888	1888	A. E. Neumeister, M. D., Kansas City, Mo., 1214 Main Street.	Sept. 27th. 6 months.	Four	56	9	109	31	14	17	16,000	.....	.....	4,000.00	A. E. Neumeister, M.D.
10. College of Homœopathic Med. and Surg. of Kas. City Univ.	1896	1896	W. H. Jenny, M. D., 12th St. and Broadway, Kansas City, Mo.	September. 26 weeks.	Four	.....	4	5	26	14	12	.....	.....	.....	.....	W. A. Foster, M. D. J. M. Patterson, M. D. Frank Elliott, M. D.
11. Southern Homœopathic Medical College and Hospital.	1890	1891	Henry Chandlee, M. D., 704 West North Ave., Baltimore, Md.	6 mo. 1st Tuesday in Oct.	Four	39	8	58	26	14	12	30,000	.....	.....	.....	Henry Chandlee, M. D. C. S. Rumsey, M. D.
12. Boston University School of Medicine.	....	1873	I. Tisdale Talbot, M. D., 687 Boylston St., Boston.	8 months. October.	Four	161	44	799	55	26	29	120,000	40,000	55,000	.....	H. P. Bellows, M. D.
13. Homœopathic Medical College in University of Michigan.	1874	1875	W. H. Hinsdale, M. D., 407 Forest Ave., Ann Arbor, Mich.	9 months. Sept. 26th	Four	69	9	337	9	5	4	.....	State.	.....	.....	R. S. Copeland, M. D. W. A. Dewey, M. D.
14. College of Homœopathic Med. and Surg. of Univ. of Minn.	1888	1888	A. P. Williamson, M. D., 602 Nicollet Ave., Minneapolis, Minn.	8½ months.	Four	22	4	63	18	16	2	Belong to State of Minn.	.....	.....	.....	G. F. Roberts, M. D. W. S. Briggs, M. D.
15. Homœopathic Medical College of Missouri.	1857	1858	William C. Richardson, M. D., 411 Olive St., St. Louis, Mo.	Sept. 21st. 6 months.	Four	76	13	607	30	22	8	1500	.....	5000	2500 or 3000	W.C.Richardson, M. D. J. A. Campbell, M. D.
16. N. Y. Homœopathic Medical College and Hospital.	1860	1860	William Tod Helmuth, M. D., 504 Fifth Avenue, New York	October 1st. 7 mo. 1st Tuesday in Oct.	Four	130	36	About 1400	44	24	9	600,000	100,000 includ. beds.	About 165,000	About 17,000	E. H. Porter, M. D. H. M. Dearborn, M.D.
17. N. Y. Medical College and Hospital for Women.	1863	1863	M. B. Brown, M. D., 135 West 34th Street, New York.	26 weeks. October.	Four	22	4	315	29	19	10	.....	.....	.....	.. .. ..	M. Belle Brown, M. D. H. M. Dearborn, M.D.
18. Cleveland Univ. of Med. and Surg. Merged in																
19. Cleveland Homœopathic Medical College.	1849	1849	G. J. Jones, M. D., Case Library Building, Cleveland, O.	28 weeks. September.	Four	159	52	1980	38	28	10	125,000	.....	.....	.....	G. J. Jones, M. D.
20. Pulte Medical College.	1872	1872	J. D. Buck, M. D., 116 West 7th Street, Cincinnati, O.	6 months. 1st Wed. Sept.	Four	49	10	606	36	18	8	20,000	.....	2000	4500	C. E. Walton, M. D.
21. Hahnemann Medical College of Philadelphia.	1848	1848	Pemberton Dudley, M. D., 1405 N. 16th Street, Philadelphia, Pa.	8 months. October 1st.	Four	272	70	2442	8	16	24	600,000	250,592	100,000	94,249	P. Dudley, M. D. Charles Mohr, M. D.
						1598	412	12,329		333	228					

GRADUATES OF HOMŒOPATHIC MEDICAL COLLEGES. SESSION OF 1898—99.

SOUTHWESTERN HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL, LOUISVILLE, KY.

For the year 1898-1899. Session Commenced September 27, 1898. Session Closed March 31, 1899. Number of Weeks, 26. Matriculants, 25. Graduates, 5. Commencement, April 4, 1899.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Armstrong, W. F....	Louisville C'y Hos.	....	.....	4	3, at Southwertern.
Dunlap, Mrs. M. C....	Louisville C'y Hos.	....	.....	4	3, at Southwestern.
Loughridge, Mrs. C. B.	Louisville C'y Hos	....	.....	4	3, at Southwestern.
Wodlington, J. B.....	Louisville C'y Hos.	....	.....	4	3, at Southwestern.
Schenck, Nellie, M. D.	Knoxville, Tenn. .	....	.....	4	Post-graduate, Eclectic S. of Cincinnati.

J. Esmann, M. D.
Registrar.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF CHICAGO.

For the Year 1898-99. Session Commenced September 13, 1898. Session Closed March 23, 1899. Number of Weeks, 27 Matriculants, 198. Graduates, 56. Commencement, March 23, 1899.

Atchison, Archie B....	Monroe Centre, Ill.	27	Dr. H. G. Davis....	4	4, Hahn. Chicago....
Axtell, Luella E.....	Burlington, Wis...	31	Dr. E. E. Axtell...	4	4, Hahn. Chicago....
Bartlett, Edith V.....	Beloit, Wis.....	25	Dr. C. W. Merriman.	4	1, Valparaiso; 3, Hahn. of Chicago.
Bartlett, Mary E.....	Beloit, Wis.....	23	Dr. W. A. Mellen..	4	1, Valparaiso; 3, Hahn. of Chicago.
Bissell, Hobart Henry.	Gloversville N. Y.	24	Dr. D. A. Bissell...	4	4, Hahn. Chicago....
Bowker, F. C., A. B...	McPherson, Kans.	26	Dr. E. K. Thompson.	5	5, Kans. State Univ.
			A. B. Kans. State University.	4	3, Hahn. Chicago....
Brown, Edna W.....	Gilmore City, Ia...	25	Dr. McManus.....	4	.....
Brown, May T., M. D..	Chicago, Ill.....	46	Hering Med. Coll.	5	4, Hering Med. Coll.; 1, Hahn. Chicago. .
Bryant, Sus. Long.....	Urbana, Ohio.....	32	Faculty	4	4, Hahn. Chicago....
Clark, Peter Selbie....	Chicago, Ill.....	23	Dr. J. C. McPherson.	4	4, Hahn. Chicago....
Comstock, A. E., M.S.	Fayette, Iowa.....	26	M. S. Upper, Iowa University.	5	2, Upper Iowa Univ.; 3, Hahn. Chicago
Cary, A. Louise.....	Benton H'bor, Mch	34	Dr. E. M. Oviatt..	4	1, Benton Harbor College; 3, Hahn. Chicago.
Crooks, William A....	Chicago, Ill.....	24	Faculty.....	4	4, Hahn. Chicago....
Cruzen, J. Lewis.....	Oskaloosa, Iowa...	23	Dr. A. J. Hunter..	4	4, Hahn. Chicago....
Cutts, Elmer H., A. B.	Middleburg, Vt....	32	A. B. Middleburg.. College.	5	2, Middleburg Coll.. 3, Hahn. Chicago.
Davidson, Warren C..	Valparaiso, Ind....	25	Dr. T. Ketchum...	4	4, Hahn. Chicago....
Davis, Ida Pettibone..	Omaha, Neb.....	39	Dr. J. P. Shelby...	4	4, Hahn. Chicago....
Dodge, Rufus E.....	Saginaw, Mich....	25	Dr. S. B. Montague	4	4, Hahn. Chicago....
Duffield, Alice V.....	Chicago, Ill.....	43	Dr. G F. Shears..	4	4, Hahn. Chicago....
Eaton, Wm. O., M. D.	Aberdeen, Ohio...	28	Univ. of Cincinnati Medical Dept.	5	4, Univ. of Cincinnati Med. Dept.; 1, Hahn. Chicago.
Ferguson, A. R., A. B..	Manistee, Mich. ..	47	A. B. University of New Brunswick.	6	2, Univ. of New Brunswick; 4, Hahn. Chicago.
Fitzhugh, Julia D.....	Chicago, Ill.....	35	Faculty.....	4	4, Hahn. Chicago.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF CHICAGO.—CONTINUED.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Flint, Nellie C., B. S..	Des Moines, Iowa.	26	B. S. Drake Univ..	5	1, Med. Dept. Drake University; 2, Hahn. Chicago; B. S. Drake Univ.
Holmes, Abby V.....	Omaha, Neb.....	28	Dr. W. H. Hanchett	4	4, Hahn. Chicago.
Johnston, Josiah U....	Sigourney, Iowa..	26	Iowa State Univ. R. Ph.	3	2, Iowa State Univ. State License to Practice; 1, Hahn. Chicago.
Kelly, James W.....	Kalamazoo, Mich.	24	Faculty.	4	1, Ann Arbor; 3, Hahn. Chicago.
Langheim, Henry W..	Jamestown, N. Y.	26	Dr. A. B. Rice....	4	4, Hahn. Chicago.
Layman, Ernest.....	Terre Haute, Ind.	26	Dr. M. H. Waters	4	4, Hahn. Chicago.
Leeds, Frank R.....	Mich. City, Ind...	25	Dr. E. Z. Cole.....	4	4, Hahn. Chicago.
Leland, John T.....	Eau Claire, Wis..	24	Dr. J. H. Noble...	4	4, Hahn. Chicago.
Lemon, Herbert R.....	Topeka, Kans.....	27	Faculty.....	4	3, Kans. City, Homo. Coll; 1, Hahn. Chi.
Lindquist, Nils S.....	Plymouth, Ind....	23	Dr. E. W. Beach..	4	4, Hahn. Chicago.
McBean, Geo. Martin	Chicago.....	24	Dr. H. R. Chislett.	4	4, Hahn. Chicago.
McLane, J. R., M. D..	Columbia, Mo.....	22	Mo. State Univ. Medical Dept.	5	1, Hahn. Chicago; 4, Mo. State Univ Medical Dept.
McCurley, B. G.....	Cortland, Ohio....	22	Faculty.....	4	3, Hahn. Chicago; 1, Med. Dept., New Lynne Institute.
Mansur, Mary L., M.D.	Janesville, Wis...	42	Hahn, Chicago...	5	1, Hahn. Chicago; 4, Hahn. Chicago.
Mansur, Wm. R.....	Janesville, Wis...	40	Dr. M. M. Lane...	4	4, Hahn. Chicago.
Marsh, N. W., A. B...	Bloomington, Ill.	26	A. B. Ill., Wesley, and Harvard.	5	3, Hahn. Chicago; A. B. Ill., Wesley. and Harvard.
Martin, Frederick H..	Milwaukee, Wis..	26	Dr. O. W. Carlson.	5	4, Hahn. Chicago; 1, Univ. Wisconsin.
Olson, Emma R.....	Waterford, Wis...	27	Dr. T. M. Kerney.	4	4, Hahn. Chicago.
Park, Kenneth C.....	Muskegon, Mich..	21	Dr. C L Thompson	4	4, Hahn. Chicago.
Pearson, R. Dorwin...	South Wabash, Ind	26	Dr. John Stewart.	4	4. Hahn. Chicago.
Petit, Gilman W.....	Chicago.	24	Dr. J. R. Gilman..	4	4, Hahn Chicago.
Piles, Freda M, B. S., Ph. G.	Oakland, Iowa ...	26	B. S. & Ph. G., N I. N. S.	5	3, Hahn. Chicago; B. S & Ph., G. N. I. N. S.
Ragatz, John R.....	Benton Harbor, Michigan.	26	Dr. W. C. Barton.	4	4, Hahn. Chicago.
Thomas, G. V., M. D..	Rensselaer, N. Y..	22	Albany Med. Coll.	5	1, Hahn. Chicago; 4, Albany Med Coll.
Truax, H. R., M. D....	Chicago.....	36	S. U. of Iowa Reg.	5	1, Hahn. Chicago; 4, I. S. U. Med. Dept.
Tucker, Frew Albertes	Marshalltown, Ia.	28	Iowa State Univ..	3	1, Hahn. Chicago; 2, I S. U. License to Practice.
Tulleys, Edward J....	Bainbridge, Ohio.	23	Dr. D. W. Dawley.	5	4, Hahn. Chicago.
Voss, Geo. Herman...	Chicago.....	32	Faculty.....	4	4. Hahn. Chicago.
Waterbury, Chas. A...	Waterloo, Iowa...	24	Iowa State Univ..	3	1, Hahn. Chicago; 2, I. S U. License to Practice.
Wells, Mary J.....	Neshkera, Wis...	32	Faculty.....	4	4, Hahn. Chicago.
West, Emma Jane.....	Milwaukee, Wis..	42	Faculty.....	4	4, Hahn. Chicago.
Winchell, Marie A....	Chicago.....	24	Dr. J. M. Hauslmair.	4	3, Hahn. Chicago; 1, Hiram College.
Wood, Fred Webster..	Niles, Michigan..	23	Dr. A. O. Ullery ..	4	4, Hahn. Chicago.
Young, D. W., M. D...	Paris, Ill.....	31	Gross Med. Coll...	5	1, Hahn. Chicago; 4, Gross Med. Coll.

DENVER HOMŒOPATHIC COLLEGE.

For the year 1898-1899. Session Commenced October 7, 1898. Session Closed April 14, 1899. Number of Weeks, 26. Matriculants, 50. Graduates, 6. Commencement, April 14.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Abbott, Frona.....	Denver, Col.....	....	College.....	4	4, Denv. Hom. Coll.
Beeler, Margaret H...	Denver, Col.....	....	College.....	4	4, Denv. Hom. Coll.
Brown, James B.....	Denver, Col.....	....	College.....	4	4, Denv. Hom. Coll.
Connett, Wm. S.....	Denver, Col.....	....	College.....	4	4, Denv. Hom. Coll.
Gregory, Rollin S.....	Boise City, Idaho.	....	College.....	4	2, Rochester Electro-Therapy; 2, Denver Hom. Coll.
Thompson, Clinton E.	Denver, Col.....	....	College.	4	4, Denv. Hom. Coll.

CHICAGO HOMŒOPATHIC MEDICAL COLLEGE.

For the year 1898-1899. Session Commenced September 13, 1898. Session Closed March 21, 1899. Number of Weeks, 27. Matriculants, 165. Graduates, 40. Commencement, Sept. 21, 1899.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Austina, W. F.....	Winnecome, Wis.	31	H. S. Johnson, M. D., S. M Wright, M. D.	4	4, C. H. Med. Coll.
Bieger, Jacob...	Chicago, Ill.....	33	A. C. Rasnussen, M. D.	4	4, C. H. Med. Coll.
Baerman, L, A.....	Milwaukee, Wis..	32	S. P. Sorenson, M. D.	4	4, C. H. Med. Coll.
Batsford, Claude W....	Castile, N. Y	36	A. M. Webster, M. D.	4	4, C. H. Med. Coll.
Brownell, John R.....	Warsaw, N. Y....	25	J. E. Slaught, M. D.	4	4, C. H. Med. Coll.
Brown, G. L.....	Mt. Pleasant, Ia..	26	A. D. Pitcher, M. D.	4	4, C. H. Med. Coll.
Clawson, Frank A....	Mercer, Pa.....	24	A. E. Mercer, M. D.	4	2, C. H. Med. Coll.; 1, N. M. I. Ohio; 1, Cleveland Univ.
Crandall, Wm. A.....	DeLand, Fla.....	42	N. B. Delamater, M. D.	4	2, C. H. Med. Coll.; 3, Univ. of Mich.
Chilgren, Carl O.....	Norsland, Minn..	28	.....	4	1, C. H. Med. Coll.; 3, Hahn., Chicago.
Davis, Arnold C.....	Farina, Ill.....	31	A. C. Davis, M. D.	4	4, C. H. Med. Coll.
Day, Harry L.....	Manchester, Ia...	26	P. E. Trien, M. D.	4	2, C. H. Med. Coll.; 2, Univ. of Iowa.
Enlow, Charles E.....	Crystal Lake, Ill..	38	J. W. Prium, M. D.	4	4, C. H. Med. Coll.
Harper, J. Edward....	Assumption, Ill...	32	G. A. Smith, M. D.	4	4, C. H. Med. Coll.
Harrington, Chas. M..	Knoxville, Iowa..	30	C. E. Holloway, M. D.	4	4, C. H. Med. Coll.
Jenkins, Joseph A.....	Chicago, Ill.... ..	34	H. P. Skiles, M. D.	4	4, C. H. Med. Coll.
Hochermann, R. B., M. D.	Watertown, Wis..	27	Practitioner.	6	1, C. H. Med. Coll.; 4, Univ. of Mich.
Gillogby, R. C., M. D.	Hume, Ill.....	27	Practitioner.....	6	2, C. H. Med. Coll.; 3, Kentucky School of Med.
Klopfenstein, W. A....	Bowling Green, O.	26	E. P. Thomas, M. D.	4	4, C. H. Med. Coll.
Livingston, A. A.....	Chicago, Ill.....	27	J. S. Mitchell, M. D.	4	4, C. H. Med. Coll.
Low, Alex. G.....	Owanton, Ky.....	38	J. H. Low, M. D.	4	4, C. H. Med. Coll.

THE CHICAGO HOMŒOPATHIC MEDICAL COLLEGE.—CONTINUED.

Name.	Residence.	Age	Preceptor.	Time of Study	Number of Courses Attended, and Where.
Marvin, Fred L.....	Muskegon, Mich.	26	L. R. Marvin, M.D.	4	4, C. H. Med. Coll.
Mulky, Carl.....	Knoxville, Iowa..	22	C. E. Halloway, M. D.	4	2, C. H. Med. Coll.; 2, Univ. of Iowa.
Moulton, Horace P....	Maquoketee, Ia...	25	C. W. Smith, M. D.	4	2, C. H. Med. Coll.; 2, Univ. of Iowa.
Meadow, A. E., M. D..	Blockton, Ala.....	38	Practitioner.....	7	1, C. H. Med. Coll.; 2, Pulte, Ohio.
Mitchell, Joseph R....	Mayville, N. D....	34	J. Waters, M. D...	4	1, C. H. Med. Coll.; 3, Hahn., Chicago.
Osborne, Wells M.....	Pleasantville, Pa..	27	A. W. Goodwin, M. D.	4	4, C. H. Med. Coll.
Preston, P. Benjamin.	Erie, Pa.....	24	Jacob Bucher, M. D.	4	2, C. H. Med. Coll.; 1, New Lynn Med. Inst.; 1, Univ. of Cleveland.
Palmer, Geo. B.....	Estherville, Ia....	29	G. W. Muirhead, M. D.	4	4, C. H. Med. Coll.
Parker, John W.....	Vermontville, Mich.	29	Chas. Snell, M. D.	4	4, C. H. Med. Coll.
Porter, J. G.....	Clinton, Ill.....	32	F. E. Downey, M. D.	4	3, C. H. Med. Coll.; 1, Hahn., Chicago.
Pittenger, Fred A.....	Boies, Idaho.....	25	H. P. Ustick, M. D.	4	2, C. H. Med. Coll., 2, Univ. of Iowa.
Ryder, Walter B.....	Clinton, Iowa.....	34	A. Blunt, M. D...	4	4, C. H. Med. Coll.
Smart, Charles E.....	Maysville, Ky.....	26	C. S. Halton, M. D.	4	4, C. H. Med. Coll.
Sloan, R. C.....	Knoxville, Iowa..	34	C. E. Halloway, M. D.	4	4, C. H. Med. Coll.
Ward, Albert L.....	Colfax, Ill.....	32	H. W. Langstaff, M. D.	4	4, C. H. Med. Coll.
Weirick, Albert J.....	Chicago, Ill.....	25	C. A. Weirick, M. D.	4	4, C. H. Med. Coll.
Welton, Carroll B.....	Sioux Falls, S. D..	27	T. G. Stevenson, M. D.	4	1, C. H. M. C.; 2, Hering; 1, Ann Arbor
Webster, Geo. W.....	Theresa, Mo.....	26	C. A. Porter, M. D.	4	1, C. H. Med. Coll.; 3, N. Y. Hom.
Lewis, Geo. E.....	Chicago, Ill.....	28	A. W. Woodward, M. D.	4	4, C. H. Med. Coll.
Besser, Emil.....	Harper, Iowa.....	31	J. E. Payne, M. D.	4	2, C. H. Med. Coll.; 2, Univ. of Iowa.

HERING MEDICAL COLLEGE.

For the year 1898-1899. Session Commenced September 12, 1898. Session Closed April 10, 1899. Number of Weeks, 30. Matriculants, 60, Graduates, 18. Commencement, April 11.

Unkrich, C. R.....	Fairfield, Iowa...	24	W. H. Connors, M. D.	4	3, State Univ., Ind.; 1, Hering.
Van Katsch, R. J.....	447 39th Street, Chicago.	....	J. A Printy, M. D.	3	2, Nat. Med. Coll.; 1, Hering. Born in Argentine Rep.
Jones, M. Estella.....	9244 Cottage Grove Ave., Chicago.	....	J. P. Jones, M. D..	4	3, Dunham; 1, Her.
Gearheart, Susan E...	Chicago, Ill.....	22	J. P. Jones, M. D..	3	2, Dunham; 1, Her.
Allen, Sara F.....	Philadelphia, Pa..	36	Margeret E. Burgess, M. D.	3	1, Woman's Med. C. Phila.; 1, Hahn., Chicago; 1, Her.
Campbell, H. M.....	Door Village, Ind.	42	A. Mitchell, M. D.	3	3, Hering.
Duddy, E. C.....	Crestline, Ohio....	....	G. W. Dowel, M.D.	4	2, Amer. Med. Coll., Ind.; 2, Hering.

HERING MEDICAL COLLEGE.—CONTINUED.

Name.	Residence.	Age	Perceptor	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Forrest, Nellie D	Chicago.....	33	May K. Mack, M. D.	4	4, Hering.
Ford, Justina L..	Galesburg, Ill.....	27	.....	3	3, Hering.
Garlinghouse, O. L....	Kansas.	28	C. F. Menninjes, M. D.	3	1, Kans. Med. Coll.; 2, Hering. (2, Kans. College, but 1 allowed for it.)
Gray, Addie E F.....	Chicago.....	40	D. S. Hamilton, M. D.	3	3, Hering
Hubbard, Charles F..	Chicago.....	25	E. E. Reinmyer, M. D.	3	3, Hering.
De la Hautiere, R. R. S	California.....	37	A. M. Neil, M. D..	4	2, Cal. Med. Coll.; 2, Hering.
Mitchell, Paul S.....	Illinois.....	23	O. D. Noe, M. D..	3	1, Hahn., Chicago; 2, Hering.
Peake, Arthur.....	Chicago.....	26	F. Peake, M. D...	4	4, Hering.
Pelton, B. H.....	Chicago.....	32	.....	4½	2½, Inter Med. Mis.; 2, Hering. (Only 1 year allowed for 2½ spent at Int. Med. Mis.
Scobell, E. M. L.....	Chicago.....	25	D. S. Hamilton, M. D.	3	3, Hering
Trumbull, Elizabeth..	Chicago.....	34	J. J. Thompson, M. D.	3	1, National; 2, Her.

Dr. J. B. S. King,
Registrar.

HOMŒOPATHIC MEDICAL DEPARTMENT, STATE UNIVERSITY OF IOWA.

For the year 1898-1899. Session Commenced September 14, 1899. Closed March 30, 1899. Number of Weeks, 26. Matriculants, 69. Graduates, 8. Commencement, March 30, 1899.

Abbott, Edward C.....	Iowa City, Ia.	22	J. G. Gilchrist....	4	All in University.
Blackstone, B. P.....	Anamosa, Ia.....	23	J. L. Hazard.....	4	All in University.
Calkins, Fred E.....	York, Nebraska..	25	R. L. Calkins.....	4	All in University.
Carver, Harry E.....	Oskaloosa, Ia.....	23	Faculty.....	3	All in Univ. Degree in Science.
Davis, Metta E.....	Sioux City, Ia.....	25	C. B. Adams	4	All in University.
Marble, Pearl L.....	Raymond, Ia.....	24	Thos. Philips.....	4	All in University.
McCabe, Fordyce.....	Muscatine, Ia.....	23	A. C. McAlister...	4	All in University.
Metzinger, John J....	Iowa City, Ia.....	25	Faculty.....	4	All in University.

COLLEGE OF HOMŒOPATHIC MEDICINE AND SURGERY OF THE KANSAS CITY UNIVERSITY.

Coburn, Clay E., B. S.	Kansas City, Kans.	27	Frank Elliott, M. D.	3	3, C. H. M. & S, Kas. City University.
Northrup, John F., A. B.	Kansas City, Kans.	27	Frank Elliott M. D.	3	3, C. H. M. & S. Kas. City University.
Bradley, Virginia H...	Edgar, Nebraska.	26	E. H. Merwin, M. D.	5	2, Coll. of Pharmacy, Kas. City, Mo.; 3. C. H. M. & S, Kas. City University.
Doane, Florence E....	Lawrence, Kans..	28	W. A. Forster, M. D.	4	1, Kas. City H. M. C. in 1894; 3, C. H. M & S., Kas. C'y, Mo.

KANSAS CITY HOMŒOPATHIC MEDICAL COLLEGE.

For the year 1898-1899. Session Commenced September 14, 1898. Session Closed March 23, 1899. Number of Weeks, 28. Matriculants, 56. Graduates, 9. Commencement, March 23, 1899.

Name.	Residence.	Age	Preceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Aplynne, G. E.....	Kansas City, Mo.	29	W. H. Stiles, M. D.	4	1, Univ. Southern Cal., Grad 4 year Course; 1, Hahn., Med., Chicago; 2 K. C. H. M. Coll., Grad. 4 yr. Course,
Baker, E. O.....	Eldorado, Kas....	27	W. A. Minick, M. D.	4	High School Acad and full course at K. C. H. M. C.
Booth, L. R.....	Valley Falls, Kas.	24	Frank Swallow, M. D.	4	Academy Hahn. of Chicago; 2, years K. C. H. M. C.
Benthack, P. L.....	Platte Center, Neb	33	Dr. Freischkron..	4	1, H. S. Nat. Med. of Chicago; 2, K. C. H. M. C.
Clothier, S. H.....	Independence, Mo	30	W. L. Ray, M. D.	4	Acad. & H. School; Full Course in K. C. H M. C.
Guggenheim, L. C.....	Kansas City, Mo..	26	M. T. Runells, M. D.	4	K. C. High School; Full Course in K, C. H. M. C.
Ott, Chas. W.....	Hanover, Kas.....	21	Chas. Ott, Sr., M. D.	4	High School & Acad. Full Course in K. C. H. M. C.
Orear, V. B.....	Butler, Mo.....	28	L. Orear, M. D. ..	4	High School & Full Course in K. C. H. M. C.
MacLeod, D. R.....	Holton, Kas.....	30	Dr. MacLeod, Sr..	4	Acad.; 2, Pulte Med. of Cincinnati; 1, K. C. H. M. C.

SOUTHERN HOMŒOPATHIC MEDICAL COLLEGE, BALTIMORE, MD.

For the year 1898-1899. Session Commenced October 3, 1898. Session Closed April 9, 1899. Number of Weeks, 26. Matriculants, 39. Graduates, 8. Commencement, April 13, 1899.

Ferguson, Clara M....	Delaware.....	22	S. H. M. College..	4	4, S. H. M. College.
Powers, Lelia H.....	Maryland....	23	Woman's Med. College.	4	3, Woman's Med. Coll., Baltimore; 1, S. H. M. College.
Long, Geary A.....	Maryland.....	23	Dr. C. W. Weaver	4	4, S. H. M. College.
Marchant, Annie W...	Maryland.....	36	Woman's Med. College.	4	3, Woman's Med. Coll., Baltimore; 1, S. H. M. College.
Meyers, Don M.....	Pennsylvania.....	24	S. H. M. College..	4	4, S. H. M. College.
Miller, B. F.....	Pennsylvania.....	46	Hahn. Coll. Phila.	5	4, Hahn. Med. Coll., Phila.; 1, S. H. M. College.
Harper, Peddicord ...	Maryland.....	23	S H. M. College..	4	4, S. H. M. College.
Pfeiffer, H. S.....	Maryland.....	22	Dr. J. H. Sherman	4	4, S. H. M. College.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.

For the year 1898-1899. Session Commenced October 6, 1898. Session Closed June 7, 1899. Number of Weeks, 32. Matriculants, 161. Graduates, 44. Commencement, June 7, 1899.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Medical Courses Attended, and Where.
				Yrs.	
Abbott, Eulalie Marie	Berwick, Maine..	27	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Atkins, Grace E.....	Boston.....	28	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Beach, C. C., Sc. B.....	Hartford, Conn....	25	B. U. Sch'l of Med.	3	31 in B. U. S. M.
Beardslee, Fred N.....	Roxbury, Mass...	28	B. U. Sch'l of Med.	4	34 in B. U. S. M. Full Scientific Course at Trinity Coll.
Boomhower, Alberta S.	Plattsburg, N. Y..	25	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Bridge, E. F., Ch. B...	Boston.....	32	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Bryer, James Allen....	Middleton, Mass..	25	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Bush, C. W., Ch. B....	Lancaster, Ohio..	28	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Cross, Louis Kent.....	Palmer, Mass.....	22	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Dalrymple, Addie B.H.	Boston.....	31	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Dalrymple, Alfred T..	Boston.....	33	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Eveleth, Fred Shailer.	S'th Lincoln, Mass	25	B. U. Sch'l of Med.	4	33 in B. U. S. M.
Fitzgerald, J. B., M. D.	Boston.....	40	B. U. Sch'l of Med.	1	12 in B. U. S. M. Full Course at Coll of Phys. and Surg., Boston.
Flanders, Walter H...	Melrose, Mass....	24	B. U. Sch'l of Med.	4	33 in B. U. S. M.
Foster, Frank Brooks.	Boston.....	23	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Foster, Louis Everett.	Dorchester, Mass.	23	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Goodwin, Edward E..	Brockton, Mass...	34	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Graves, Walter John..	Dorchester, Mass.	36	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Gray, Walter Bryant..	Boston.....	29	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Hall, Fred Augustus..	Hyde Park, Mass.	32	B. U. Sch'l of Med.	4	34 in B U. S. M.
Hartley, Rebecca Agnes	Ashton, R. I	34	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Jordan, E. M., Ch. B..	Cape Elizabeth, Me	27	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Kawase, Motokuro....	Gifu, Japan.... ..	27	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Kennison, William H.	Newfield, Me.....	30	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Lambert, J. H., Ch. B.	Lowell, Mass.....	23	B. U. Sch'l of Med.	3	32 in B U. S. M. Biological Course at Mass. Inst. of Technology.
Leib, Edwin Roy.....	Buffalo, N. Y.....	23	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Merrill, T. C., Ph. B...	Providence, R. I..	26	B. U. Sch'l of Med.	3	32 in B. U. S M. Full Course at Brown University.
Miller, Edward A.....	Ballard Vale, Mass	26	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Nalchajian, D. Davis..	Chelsea, Mass....	28	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Perkins, A. R., Ch. B..	Baldwinville, Mass	21	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Elizabeth, May R.....	Beverly, Mass.....	24	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Rockwell, Alfred E. P., Ch. B.	Norwich, Conn...	29	B. U. Sch'l of Med.	3	32 in B. U. S. M. First year Atlanta Med. College.
Rockwell, J. A., Jr., Sc. B., Ch.B.	Norwich, Conn...	27	B. U. Sch'l of Med.	3	31 in B. U. S. M. Full Biological Course at Mass. Inst. of Technology.
Sisson, Mabel C.....	Easton, N. Y.....	25	B. U. Sch'l of Med.	3	29 in B. U. S. M. First yr. Woman's Med. Coll. Phila.
Smith, Conrad, A. B. Ch.B.	Boston.....	25	B. U. Sch'l of Med.	3	32 in B. U. S. M. Full Course at Harvard University.
Souther, Robert F.....	Dorchester, Mass.	23	B. U. Sch'l of Med.	4	34 in B U. S. M.
Steele, Harry Leon...	Peterboro, N. H..	26	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Sturtevant, Charles A.	Oakland, Me.. . .	24	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Tallman, Arthur D...	Providence, R. I..	21	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Taylor, Lina Barbara.	Sullivan, Me.....	23	B. U. Sch'l of Med.	4	34 in B. U S. M.
Valentine, J. F., Ph.G.	Melrose, Mass....	33	B. U. Sch'l of Med.	3	31 in B. U. S. M. Full Course at Mass. Coll. of Pharmacy.
Wetherbee, Lucy E...	Worcester, Mass..	23	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Whitehead, Mary C...	Dover, N. H.....	41	B. U. Sch'l of Med.	4	34 in B. U. S. M.
Woodbury, George F..	Patten, Me.....	27	B. U. Sch'l of Med.	4	34 in B. U. S. M.

HOMŒOPATHIC DEPARTMENT, UNIVERSITY OF MICHIGAN.

For the year 1897-1898, Session Commenced October 1897. Session Closed July 1, 1898. Number of Weeks, 36. Matriculants, 64. Graduates, 9. Commencement, June 30, 1899.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Babcock, John N.....	Bay City.....	....	J. C. Nattenham..	4	4, Univ. of Mich.
Ball, Joseph Harris...	Ann Arbor.....	....	E. F. Chase.....	4	4, Univ. of Mich.
Clifford, Raymond A..	Wadsworth, Ohio.	....	W. B. Hinsdale...	4	2, Cleveland Homo.; 2, Univ. of Mich.
Maynard, Ernest B....	South Berlin, Mass	....	W. B. Hinsdale...	4	2, Cleveland Homo.; 2, Univ. of Mich.
Montague, Charles A.	Buchanan, Mich..	....	.....	4	4, Univ. of Mich.
Schimausky, C. A.....	Sandusky, Ohio...	....	.....	4	4, Univ. of Mich.
Tuttle, Samuel Porter	St. Louis, Mich....	....	.....	4	4, Univ. of Mich.
Wells, Marion.....	Garbutt, N. Y.....	....	.....	4	4, Univ. of Mich.
Rabethye, Charles A..	Ann Arbor, Mich.	....	.....	6	3, Phys. & Surg. Col. Boston; 1, Jefferson Med. Col.; 2, Univ. of Mich.

COLLEGE OF HOMŒOPATHIC MEDICINE AND SURGERY UNIVERSITY OF MINNESOTA.

For the year 1898-1899. Session Commenced September 2, 1898. Session Closed June 1, 1899. Number of Weeks, 32. Marticulants, 22. Graduates, 4. Commencement,

Booth, Albert E.....	Minneapolis.....	....	Univ. of Minn....	4	4, Coll. H. M. & S. U. of M.
Caine, Arthur T.....	Minneapolis.....	24	Univ. of Minn....	4	4, Coll. H. M. & S. U. of M.
Matchan, Glenn R.....	Minneapolis.....	23	Univ. of Minn....	4	4, Coll. H. M. & S. U. of M.
Matchan, Wesley G...	Lumbrota, Minn..	23	Univ. of Minn....	4	4, Coll. H. M. & S. U. of M.

HOMŒOPATHIC MEDICAL COLLEGE OF MISSOURI.

For the year 1898-1899. Session Commenced October 1, 1898. Session Closed April 4, 1899. Number of Weeks, 27. Matriculants, 76. Graduates, 13. Commencement, April 4, 1899.

Baldwin, Clarence A..	Amboy, Ind.....	28	Dr. D. J. Baldwin.	4	2, Indiana State U.; 2, Hom. Med. Coll. of Mo.
Barnard, Sarah I.....	St. Louis.....	38	H. Med. Coll. of Mo.	4	4, Hom. Med. Coll. of Mo.
Beall, Kate Walker...	St. Louis.....	48	Dr. Mary E. Beall.	4	4, Hom. Med. Coll. of Mo.
Bickley, William H...	Waterloo, Ia.....	23	Dr. J. G. Bickley..	4	Advanced by Univ. of Ia., took 2 there; 1, Hom. Med. Coll. of Mo.
Bruns, Edw. Albert...	Plymouth, Wis...	26	Dr. G. Brickbauer.	4	Advanced 1 term, attended 3, Hom. Med. Coll. of Mo.
Gillham, Frank W....	Brighton, Ill.....	22	Dr. P. Brickbauer.	4	Advanced 1 term on diploma, attended 3, Hom. Med. Coll. of Mo.
Hirsch, Joseph A.....	Elkhart, Wis.....	26	Dr. P. Brickbauer.	4	Advanced 1 term on diploma, attended 3, Hom. Med. Coll. of Mo.
Hunt, Augustus Stout.	Jerseyville, Ill. ..	27	Dr. W. H. Badger.	4	2, Med. Dept. Yale; 2, H. M. C. of Mo.

HOMŒOPATHIC MEDICAL COLLEGE OF MISSOURI.—CONTINUED.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Meurer, Louis James..	Chester, Ill.....	27	Dr. F.C. Robinson.	4	Advanced 1 year on diploma by M. Sims Coll. and attended 1 course there; 2 terms H. M. C. of Mo.
Mitchell, Fred L.....	Sibley, Ia.....	26	Dr. B. A. Wilder..	4	Advanced 1 term in Ia. S. U., attended 2 terms there; 1 H. M. C. of Mo.
Pease, Bertha Starke .	Hamilton, Ill.....	34	Dr. F. W. Pease...	4	3 terms Keokuk M. C.; 1 H. M. C. Mo.
Sammons, Leslie C....	Dawagiac, Mich..	22	Dr.G.R.Herkmeier	4	Advanced 1 term on diploma, Chicago H. M. C., attended 2 terms there; 1 H. M. C. of Mo.
Schreiner, Chas. A....	Sigourney, Ia.....	30	Dr. F. A. Strawbridge.	4	Graduate of Pharmacy; 1 yr. Ia. S. U.; 2 terms H. Mo. C. of Mo.

NEW YORK HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL.

For the year 1898-1899. Session Commenced October 4, 1898. Session Closed May 4, 1899. Number of Weeks, 30. Matriculants, 130. Graduates, 36. Commencement, May 4, 1899.

Anderson, Jefferson C.	Monticello, Fla...	29	E. P. Roberts, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Augustin, G. W., Jr...	Jersey City H'ghts, N. J.	22	J. L. Nevins, M. D.	5	5, N. Y. H. M. Coll. and Hospital.
Birdsall, Edgar... ...	Glen Falls, N. Y..	22	S. Y. Birdsall, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Blakeman, J. LeRoy..	N. Y. City, N.Y...	24	Wm. T. Hudson, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Bornmann, Alfred....	Brooklyn, N. Y..	20	H. J. Peirson, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Burt, James Edward..	Asbury Park, N.J.	41	J. H. Bryan, M. D..	4	4, N. Y. H. M. Coll. and Hospital.
Choquette, Joseph H..	Fall River, Mass..	23	College.....	4	4, N. Y. H. M. Coll. and Hospital.
Clark, Albert B.....	Eureka, Utah....	26	C. W. Clark, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Clemons, C. A., M. D..	Washington, D.C.	24	College.....	5	4 Columbian Univ.; 1, N. Y. H. M. Coll. and Hospital.
Datesman, Hiram F..	Passaic, N. J... ..	48	College.....	4	4, N. Y. H. M. Coll. and Hospital.
Durrin, William C....	Peekskill, N. Y...	22	G. H. Peters, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Emery, William G.....	Middletown, N. Y.	26	H. M. Dearborn, M. D.	4	2, Boston Univ.; 2, N. Y. H. M. Coll. and Hospital.
Hamblin, Frank M...	Cayuga, N. Y.....	25	W. L. Hartman, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Hayward, Abner.....	N. Y. City, N. Y..	40	College.....	4	4, N. Y. H. M. Coll. and Hospital.
Hopke, F. E. W.....	Brooklyn, N. Y....	23	G. G. Van Mater, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
House, Wallace B.....	Springfield, Ohio.	27	R. B. House, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Irish, James Herbert..	Skaneateles, N.Y.	28	G. F. Martin, M.D.	3	3, N. Y. H. M. Coll. and Hospital.

NEW YORK HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL.—CONTINUED.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
King, George Suthe...	East Patchogue, N. Y.	21	A. J. Woodruff, M. D.	Yrs. 4	4, N. Y. H. M. Coll. and Hospital.
Lawrence, William T.	Binghamton, N.Y.	24	Snyder, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Lewis, Thomas Park..	N. Y. City, N.Y..	22	College.....	4	1, N. Y. Dental Coll.; 3, N. Y. H. M. Coll. and Hospital.
Marshall, Bertram E.	Middleburg, Vt...	25	W. F. Corry, M.D.	4	2, Columbian Univ.; 2, N. Y. H. M. Coll. and Hospital.
Miller, James Daniel..	Cranford, N. J....	22	W. C. Allen, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Pardee, M. Clifford....	South Norwalk, Conn.	30	E. V. D. Pardee, M. D.	6	6, N. Y. H. M. Coll. and Hospital.
Payne, James Alsen...	Bridgetown, N. Y.	22	R. F. Licorish, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Pinkham, Charles B..	Sacramento, Cal..	26	Chas. E. Pinkham, M. D.	3	3, N. Y. H. M. Coll. and Hospital.
Post, Walter.....	Secaucus, N. J....	21	B. G. Carleton, M. D.	4	1, N. Y. University; 3, N. Y. H. M. Coll and Hospital.
Pulver, Frank A.....	Torrington, Conn.	33	H. J. Pulver, M.D.	4	4, N. Y. H. M. Coll. and Hospital.
Ricardo, James N. ...	Passaic, N. J.....	29	N. C. Ricardo, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Reynolds, Harry C....	Marlboro, N. Y...	24	College.....	4	4, N. Y. H. M. Coll. and Hospital.
Rogers, Harry.....	East Orange, N. J.	22	E. V. Moffat, M. D	4	4, N. Y. H. M. Coll. and Hospital.
Schwilk, Elisha T.....	N. Y. City, N. Y..	29	F. W. Hamlin, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Thomas, Phillip Cook	New Brunswick, N. J.	26	Samuel Long, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
Turner, Reeve.....	N. Y. City, N. Y..	25	J. McE. Wetmore, M. D.	4	4, N. Y. H. M. Coll. and Hospital.
White, Benj. Richard.	Mendon Centre, N. Y.	23	C. F. Otis, M. D...	4	4, N. Y. H. M. Coll. and Hospital.
Willis, George Stuart..	Brooklyn, N. Y...	23	H. Willis M. D...	4	4. N. Y. H. M. Coll. and Hospital.
Westervelt, M. R.....	Dover, N. J.....	22	F. Beckwith, M.D.	4	4, N. Y. H. M. Coll. and Hosp

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN.

For the year 1898-1899. Session Commenced October 3, 1898. Session Closed April 20, 1898. Number of weeks, 26. Matriculants, 6. Graduates, 6. Commencement, May 9. 1899.

Name.	Residence.	Age	Time of Study	Number of Courses Attended, and Where.
			Yrs.	
Bowman, Mrs. Alice R.	New York City...	37	4	4, N. Y. Med. Coll. & Hosp. for Women.
Flanders, Miss Grace.	Morristown, N. J.	21	4	" " " " " " "
Hertz, Miss Sue. E....	New York City...	28	4	" " " " " " "
Klein, Anna.....	Jersey City.....	27	4	" " " " " " "
Poindexter, Mrs. H. M.	New York City...	34	4	" " " " " " "
Potter, Miss Mary E..	Brooklyn, N. Y...	25	4	" " " " " " "

CLEVELAND HOMŒOPATHIC MEDICAL COLLEGE.

For the year 1898-1899. Session Commenced September 21, 1898. Session Closed April 6, 1899. Number of Weeks, 28. Matriculants, 159. Graduates, 52. Commencement, April 6, 1899.

Name.	Residence.	Age	Preceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Austin, H. J.....	Geneva, O.....	23	E. D. Warner, M. D.	5	2, Clev.U.Med. Surg. 2, C. H. M. C.
Adams, F. E.....	Bellowville, Pa....	23	College.....	4	1, C. M. C. 2, C. H. M. C.
Allen, Enos B.....	Trenton, N. J.....	25	Wm. Woolsely, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Bissell, Fred. E..	Oberlin, O.....	27	College.....	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Banks, Charles W.....	West Bridgewater, Pa.	26	College.....	4	1, C. M. C. 2, C. H. M. C.
Brainard, A. J.....	Cleveland, O.....	22	L. S. Hertzog, M. D.	4	1, C. M. C. 2, C. H. M. C.
Bradshaw, Charles E.	Redfield, O.....	27	Dr. F. E. Rinehart	4	2, Clev.U.Med. Surg. 2, C. H. M. C.
Bunnell, L. M...	Scranton, Pa.....	24	Dr. J. W. Coolidge.	4	1, C. M. C. 2, C. H. M. C.
Cecil, John L...	Youngstown, O...	26	J. S. Cross, M. D..	5	2, C. M. C. 2, C. H. M. C.
Cannon, C. J....	Cleveland, O.....	22	.....	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Cleaves, W. R...	Cleveland, O.....	28	C. O. Bacon, M.D.	4	1, Clev.U. Med.Surg. 2, C. H. M. C.
Doan, E. B.....	Utica, N. Y.....	29	E. B. Guile, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Davies, Sara....	Col. Grove, O.....	24	H. T. Buckhill. ..	4	1, C. M. C. 2, C. H. M. C.
Ellison, Geo. W.	Guys Mills, Pa....	38	B. Smith, M. D...	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Fenneman, Prudence.	Hamilton, O.....	34	Julia Goodman, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Ginn, C. M.....	Miamisburg, O. .	22	C. F. Ginn, M. D.	5	1, Miami Med. Coll. 1, Clev. U. Med. 1, C. H. M. C.
Groesbeck, Frederick B.	Buffalo, N. Y.....	23	Frank Kraft, M. D.	4	1, C. M. C. 2, C. H. M. C.
Hunt, Harry E.	Columbus, O.....	26	M. P. Hunt, M. D..	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Hill, John C.....	Austin, Texas.....	23	N. O. Brenizer, M. D.	4	1, C. M. C. 2, C. H. M. C.
Henderson, J. W.	Cleveland, O.....	23	L. W. Sapp, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Hoover, Julia C.	Cleveland, O.....	31	A. F. Baedinger, M. D.	4	1, Clev.U.Med. Surg 2, C. H. M. C.
Johnson, P. Magnus. .	Cleveland, O.....	27	W. T. Anderson, M. D.	4	1, C. M. C. 2, C. H. M. C.
Jackson, Rose E.....	Bucyrus, O.....	27	R. B. House, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Keiser, Romeo O..	Bryan, Ohio.....	28	Practitioner.....	5	3, Ohio Med. Univ. 1, C. H. M. C.
Krieger, A. G...	Liverpool, O.....	25	D. Dillman, M. D.	4	1, C. M. C. 2, C. H. M. C.
Lyde, Florence A.	Cleveland, O.....	32	P. B. Roper, M. D.	4	1, C. M. C. 2, C. H. M. C.
Mufphy, Mary C.	Cleveland, O.....	30	A. C. Buell, M. D.	4	1, C. M. C. 2, C. H. M. C.
Murphy, Chester H. ..	Williamston, Mich	23	E. F. Shaw, M. D.	4	1, C. M. C. 2, C. H. M. C.
Murphy, Emma A.....	Williamston, Mich	21	E. F. Shaw, M. D.	4	1, C. M. C. 2, C. H. M. C.
Moore, C. L.....	Orangeville, O....	25	E. H. Jewitt, M.D.	4	1, C. M. C. 2, C. H. M. C.
Morgan, Van. B.....	SilverSprings, N.Y	21	B. H. B. Sleight...	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Mount, Garry.....	Lysander, N. Y...	22	E. B. Kaple, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.

CLEVELAND HOMŒOPATHIC MEDICAL COLLEGE.—CONTINUED.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Mercer, A. W.....	Steubenville, N. Y	29	College.....	5	2, C. M. C. 2, C. H. M. C.
McLain, R. W...	Litchfield, Mich..	24	C. E. Clobridge, M. D.	4	1, C. H. M. C. 2, C. H. M. C.
Niles, Johnson..... .	Ashtabula, O.....	27	B. B. Viets, M. D.	4	1, C. M. C. 2, C. H. M. C.
Nixon, Isabelle B.	Mt. Vernon, O....	24	G. D. Arndt, M. D.	4	1, C. M. C. 2, C. H. M. C.
Olin, J. M....	Medina, O.....	35	G. J. Jones, M. D.	4	1, C. M. C. 2, C. H. M. C.
O'Grady, Geo. W.	Lancaster, O.....	23	J. P. Hershberger.	5	1, Pulte, Cinn. 1, Clev. U. Med. Surg.; 2, C.H.M.C.
Orwig, James B.	Titusville, Pa.....	25	A. P. Steele, M. D.	4	1, C. M. C. 2, C. H. M. C.
Price, Wm. H.....	Cleveland, Ohio..	20	A. F. Baedinger, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Porter, Albert.....	Cleveland, Ohio..	31	G. E. Turrill, M. D.	5	2, Clev.U.Med. Surg. 2, C. H. M. S.
Richards, O. J.....	Ashtabula, Ohio..	23	K. B. Waite, M. D.	4	2, C. H. M. C. 1, C. M. C.
Reeder, J. A.....	Berea, Ohio.....	28	E. J. Wunderlich, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Schwartz, Ed. J.....	Salem, Ohio.....	25	A. S. Hayden, M. D.	4	1, C. M. C. 2, C. H. M. C.
Shepherd, Thos. P....	Wooster, Ohio....	25	H. H. Baxter, M. D.	4	1, C. M. C. 2, C. H. M. C.
Westbrooke, M. H	Brantford, Canada	29	W. C. Pardee, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Watson, I. L.....	Albion, Ohio.....	23	K. B. Waite, M. D.	5	2, Clev.U.Med. Surg. 2, C. H. M. C.
Wright, Charles J.....	Edinboro, Pa.....	25	J. Wright, M. D.	4	1, Clev.U.Med. Surg. 2, C. H. M. C.
Warner, Sam.....	New Castle, Pa...	22	E. J. Wunderlich, M. D.	5	1, Clev.U.Med. Surg. 2, C. H. M. C.
Wilkins, Geo. R.....	Union City, Pa....	28	H. L. Stein, M. D.	4	1, C. M. C. 2, C. H. M. C.
Waters, Ethel W.....	Sterling, Ohio....	34	W. H. Walters, M. D.	4	1, C. M. C. 2, C. H. M. C.
Wilson, William.....	Akron, Ohio.....	25	H. M. Page, M. D.	5	C. H. M. C.

PULTE MEDICAL COLLEGE.

For the year 1898-1899. Session Commenced, September 28, 1898. Session Closed April 4, 1899. Number of Weeks, 27. Matriculants, 49. Graduates, 10. Commencement, April 4, 1899.

Babendreier, A. I.....	Cincinnati, O.	31	Faculty.....	4½	5, Pulte.
Bashore, J. I.....	Troy, O.....	28	J. W. Means, M.D.	3	3, Pulte.
Dunham, F. H.....	Richmond, Ind...	25	W. W. Zimmerman, M. D.	3	3, Pulte.
Gergi, Mrs. S. E.. ...	Cincinnati, O.	40	Faculty.....	16	1, Pres.Coll.; 3, Pulte.
Jewett, F. L.....	Oxford, Ky.....	30	J. C. Thomasson, M. D.	3	3, Pulte.
Mutting, C. M.....	Newport, Ky.....	25	F. W. Fischback, M. D.	4	4, Pulte.
Miner, Mrs. M. E.....	Cincinnati, O.... ..	34	Faculty.....	4	4, Pulte.
McCormick, C. E.....	Ray, O.....	34	Faculty.....	4	4, Pulte.
Webster, S. T.....	Carolton, Ky.....	30	Faculty.....	10	3, Pulte.
Wenzel, F. Q.....	Natchez, Miss....	22	J. C. French, M.D.	5	4, Pulte.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF PHILADELPHIA, PA.

For the year 1898-1899. Session Commenced October 3, 1898. Session Closed May 10, 1899. Number of Weeks, 31. Matriculants, 272. Graduates, 70. Commencement, May 10, 1899.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Ackerman, Joseph H.	Asbury Park, N. J.	28	J. F. Ackerman..	4¾	4, Hahn. Med. Coll.
Allen, Henry C.....	Philadelphia, Pa.	21	J. M. Caley.	4¾	4, Hahn. Med. Coll.
Barron, Charles A....	Ashland, Pa.....	24	L. A. Snyder.....	6⅓	4, Hahn. Med. Coll.
Bingaman, Walter S..	Pittsburg, Pa.....	22	C. F. Bingaman..	4¾	4, Hahn. Med. Coll.
Bitler, Joseph C.....	Berwyn, Pa.....	24	W. B. Farley.....	4¾	4, Hahn. Med. Coll.
Black, John T.	Huntingdon, Pa...	23	H. C. Chisholm...	4¾	4, Hahn. Med. Coll.
Britto, Charles E.....	Rockland, Me....	29	W. V. Hanscome.	5	4, Hahn. Med. Coll.
Browne, William C....	Philadelphia, Pa..	22	M. Macfarlan.....	7	4, Hahn. Med. Coll.
Brumback, E. DeMary	Philadelphia, Pa..	25	M. N. Brumback .	4½	4, Hahn. Med. Coll.
Carrier, Eugene K.....	Corfu, N. Y.....	22	J. W. Le Seur.....	5	4, Hahn. Med. Coll.
Cheesman, Walter C..	Elmer, N. J.....	23	J. P. Cheesman...	4¾	4, Hahn. Med. Coll.
Cloud, Charles H.....	Haddonfield, N. J.	28	W. H. Hunt.....	5¾	4, Hahn. Med. Coll.
Comins, J. B., Ph. B...	Stafford Springs, Conn.	27	G. L. Nichols.....	5	3, Hahn. Med. Coll.; 2, Prep. Med. Wesleyan Univ.
Conover, Charles H...	Absecon, N. J.....	23	W. C. Sooy.....	5	4, Hahn. Med. Coll.
Cook, William F.....	Royersford, Pa...	28	C. M. Benham....	5	4, Hahn. Med. Coll.
Coss, Walter LeRoy...	Tarentum, Pa.....	22	G. M. Getze.....	4¾	4, Hahn. Med. Coll.
Crouthamel, Joseph F.	Perkasie, Pa.....	24	D. M. Landis.....	4½	4, Hahn. Med. Coll.
Davis, Jacob Metz.....	Camden, N. J.....	26	E. R. Tullis.....	4¾	4, Hahn. Med. Coll.
Dickey, John DeWitt..	Pittsburg, Pa.....	24	C. F. Bingaman...	5½	4, Hahn. Med. Coll.
Dicks, Joseph Oscar...	West Chester, Pa.	23	C. R. Palmer.....	4½	3, Hahn. Med. Coll.; 1, Univ. of Penna.
Eichmann, Joseph F..	Philadelphia, Pa..	22	J. Hancock..	4¾	4, Hahn. Med. Coll.
Faunce, Matthew D...	Philadelphia, Pa..	22	C. H. Smith.....	4¾	4, Hahn. Med. Coll.
Ferguson, Robert J....	Philadelphia, Pa..	27	O. H. Paxson.....	4¾	4, Hahn. Med. Coll.
Fetterhoof, H. B., B. E.	Huntingdon, Pa..	27	H. C. Chisolm	4	4, Hahn. Med. Coll.
Gay, Henry Milus....	San Jose, Cal.....	25	C. A. Wayland....	4¾	4, Hahn. Med. Coll.
Golden, George M.....	Philadelphia, Pa..	23	J. W. Strong.....	4¾	4, Hahn. Med. Coll.
Hadley, Charles F.....	Philadelphia, Pa..	21	J. H. Keeney.	4¼	4, Hahn. Med. Coll.
Haerer, Jacob H.....	Philadelphia, Pa..	23	F. J. Haerer..	6½	4, Hahn. Med Coll.
Hemphill, F. A., B. S.	Allegheny, Pa....	24	L. H. Willard.....	4	3, Hahn. Med. Coll.; 1, Med. Prep. Pa. State College.
Hendrixson, Lewis H.	Philadelphia, Pa..	26	R. J. Harris.....	4¾	4, Hahn. Med. Coll.
Holden, Charles D ...	Philadelphia, Pa..	21	E. S. Smith.....	6	4, Hahn. Med. Coll.
Hornecker, J. Carl....	Allegheny, Pa ...	25	L. H. Willard.....	4	3, Hahn. Med. Coll.; 1, Western Pa. U.
Ivins, Howard.....	Trenton, N. J.....	28	E. B. White.... ..	4¾	4, Hahn. Med. Coll.
Jackson, George G....	Asbury Park, N. J	22	T. E. Parker.....	4	4, Hahn. Med. Coll.
Lackey, Howard J.....	Gold Hill, Nev....	25	J. C. Guernsey....	4½	4, Hahn. Med. Coll.
Laughlin, Thomas L..	Philadelphia, Pa..	26	W. H. Hunt.....	4	4, Hahn. Med. Coll.
Levis, George E.	Philadelphia, Pa..	22	R. C. Allen.....	4½	4, Hahn. Med. Coll.
Longstreet, Fred I....	Manasguan, N. J.	23	R. W. Herbert....	4	4, Hahn. Med. Coll.
McBurney, M. R., A.B.	Canonsburg, Pa..	29	R. C. Rosenberger	6½	2, Hahn. Med. Coll.; 2, Jeff. Med. Coll.
Mantz, Eli Sylvester..	Jordan Valley, Pa.	26	L. A. Snyder.....	5	4, Hahn. Med. Coll.
Martin, William J.....	Pittsburg, Pa.....	21	W. F. Edmundson	4½	4. Hahn. Med. Coll.
Mercer, Warren C.....	Kemblesville, Pa.	27	A. W. Gregg.....	4	4, Hahn. Med. Coll.
Paxon, Charles Evan..	Lockport, N. Y....	25	S. W. Hurd.....	4½	4, Hahn. Med. Coll.
Peckham, A. L., B. S..	Schenectady, N. Y	24	L. Faust.....	4½	3, Hahn. Med. Coll.; 1, Med. Prep. U. C.
Proctor, William M...	Rutland, Vt.....	24	G. A. Gale.....	4½	4, Hahn. Med Coll.
Reeve, Malvern.....	Elmer, N. J.....	33	J. G. Campbell....	5½	4, Hahn. Med. Coll.
Rether, Charles H....	Biglerville, Pa....	32	G. P. Weaver.....	4½	4. Hahn. Med. Coll.
Richards, Charles M..	Reading, Pa.....	24	D. C. Kline.	5½	4, Hahn. Med. Coll.
Roth, Robert Ray.....	Frederick, Md....	24	W. F. Roth.	4¾	4, Hahn. Med. Coll.
Rowell, Edward E....	Stamford, Conn...	22	C. E. Rowell.....	4¾	4, Hahn. Med. Coll.
Rowell, Edward E., Jr.	Stamford, Conn..	22	E. E. Rowell.....	5½	4, Hahn. Med. Coll.
Russell, Reister K.....	Reisterstown, Md.	22	J. Gore.....	5	4, Hahn. Med. Coll.
Scott, Robert Case.....	Baldwinsville, N.Y	23	C. E. Heaton.....	4	4, Hahn. Med. Coll.
Shirm, Jacob C.....	Elmer, N. J.....	34	D. R. Streets.....	4½	4, Hahn. Med. Coll.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF PHILADELPHIA.—CONTINUED.

Name.	Residence.	Age	Perceptor.	Time of Study	Number of Courses Attended, and Where.
				Yrs.	
Shorkley, Geo., Ph.B..	Lewisburg, Pa....	27	W. L. Gerhart....	7½	3 Hahn. Med. Coll.; 2, Med. Prep. Bucknell Univ.
Shute, Furman R.....	Clarksboro, N. J..	25	A. C. Shute.	5½	4, Hahn. Med. Coll.
Slaughter, Frank V...	Wilmington, Del.	35	G. M. Doane.....	5	4, Hahn. Med. Coll.
Sloan, Malachi Wilson	Philadelphia, Pa..	24	O. S. Haines.....	4½	4, Hahn. Med. Coll.
Smith, Warren H.....	Atlantic City, N.J.	25	M. D. Youngman.	5	4, Hahn. Med. Coll.
Taylor, Howard .W...	Pittsburg, Pa.....	27	Z. T. Miller.....	5	4, Hahn. Med. Coll.
Thompson, Charles C.	Rockaway, N. J...	23	J. J. Thompson...	4½	4, Hahn. Med. Coll.
Thorpe, Jarvis L.....	Honesdale, Pa....	25	C. H. Bresee.....	4¾	4, Hahn. Med. Coll.
Tindall, Percy A.....	Philadelphia, Pa..	22	L. T. Ashcraft....	5½	4, Hahn. Med. Coll.
Tubbs, William Ray..	Port Jervis, N. Y.	24	R. B. Lambert....	4½	4, Hahn. Med. Coll.
Wayte, Edwin.....	Dallas, Texas.....	24	J. R. Mansfield. ..	4¾	4, Hahn. Med. Coll.
Williams, H. O., A. B.	Yerkes, Pa.....	24	E. A. Krusen.....	5	3, Hahn. Med. Coll.; 2, Med. prep. Ursinus College.
Winans, William W...	Rochester, N. Y..	25	M. Adams....	5⅓	4, Hahn. Med. Coll.
Woodruff, Robert H...	Hackettstown, N.J	24	A. E. Martin.....	5½	4, Hahn. Med. Coll.
Woodward, Lewis K..	Westminster, Md.	21	D. F. Shipley.....	4¾	4, Hahn. Med. Coll.
Yale, Arthur Wells....	Philadelphia, Pa..	24	B. F. Betts.....	4¾	4, Hahn. Med. Coll.

APPENDIX.

CONTENTS.

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HISTORICAL NOTE.

In July, 1843, the New York Homœopathic Physicians' Society issued invitations to the Homœopathic physicians of the United States, to meet in general convention in the city of New York for the purpose of forming a National Homœopathic Medical Society. The invitation was responded to by a considerable number of the leading Homœopathic practitioners of the country, who, according to previous arrangement, convened in the Lyceum of Natural History in New York City, on the 10th day of April, 1844, the eighty-ninth anniversary of the birth of the illustrious Hahnemann.

The convention was organized by electing Constantine Hering, M.D., of Philadelphia, Pa., President; Josiah F. Flagg, M.D., of Boston, Mass., and William Channing, M.D., of New York City, N. Y., Vice-Presidents; and Henry Dunnell, M.D., Secretary.

The following resolution was unanimously adopted:

Resolved, That it is deemed expedient to establish a society, entitled "The American Institute of Homœopathy."

John F. Gray, M.D., was elected General Secretary of the Institute, and S. R. Kirby, M.D., Treasurer.

The Convention having accomplished the object for which it had assembled, on motion, adjourned, *sine die.*

Immediately after the adjournment of the Convention, on the evening of the 10th day of April, 1844, at the call of John F. Gray, M.D., General Secretary-elect, the First Session of the American Institute of Homœopathy was held. Josiah F. Flagg, M.D., Boston, Mass., was elected Chairman, and A. Gerald Hull, M.D., New York City, N. Y., Provisional Secretary.

CHRONOLOGICAL LIST OF OFFICERS.

FIRST SESSION.

(*Held at New York City, N. Y., April* 10, 1844.)

JOSIAH F. FLAGG, M.D., Boston, Mass., Chairman.
JOHN F. GRAY, M.D., New York, N. Y., General Secretary.
A. GERALD HULL, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SECOND SESSION.

(*Held at New York City, N. Y., May* 14,1845.)

JACOB JEANES, M.D., Philadelphia, Pa., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

THIRD SESSION.

(*Held at Philadelphia, Pa., May* 13, 1846.)

S. R. KIRBY, M.D., New York, N. Y., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

FOURTH SESSION.

(*Held at Boston, Mass., June* 9, 1847.)

F. R. McMANUS, M.D., Baltimore, Md., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

FIFTH SESSION.

(*Held at New York City, N. Y., June* 14, 1848.)

WALTER WILLIAMSON, M.D., Philadelphia, Pa., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SIXTH SESSION.

(*Held at Philadelphia, Pa., June* 13, 1849.)

SAMUEL GREGG, M.D., Boston, Mass., Chairman.
ALVIN E. SMALL, M.D., Philadelphia, Pa., General Secretary.
WILLIAM P. ESREY, M.D., Springfield Mass., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SEVENTH SESSION.

(*Held at Albany, N. Y., June* 12, 1850.)

EDWARD BAYARD, M.D., New York, N. Y., Chairman.
ALVIN E. SMALL, M.D., Philadelphia, Pa., General Secretary.
G. W. SWAZEY, M.D., Springfield, Mass., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

EIGHTH SESSION.

(*Held at New Haven, Conn., June* 11, 1851.)

WILLIAM E. PAYNE, M.D., Bath, Me., Chairman.
G. W. SWAZEY, M.D., Springfield, Mass., General Secretary.
CHARLES G. FOOTE, M.D., New Haven, Conn., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

NINTH SESSION.

(*Held at Baltimore, Md.*, May 19, 1852.)

ELIAL T. FOOTE, M.D., New Haven, Conn., Chairman.
WILLIAM A. GARDINER, M.D., Philadelphia, Pa., General Secretary.
S. S. GUY., M.D., Brooklyn, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

TENTH SESSION.

(*Held at Cleveland, Ohio, June* 8, 1853.)

RICHARD GARDINER, M.D., Philadelphia, Pa., Chairman.
WILLIAM A. GARDINER, M.D., Philadelphia, Pa., General Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

ELEVENTH SESSION.

(*Held at Albany, N. Y., June* 7, 1854.)

LYMAN CLARY, M.D., Syracuse, N. Y., Chairman.
S. S. GUY, M.D., Brooklyn, N. Y., Secretary.
J. REDMAN COXE, JR., M.D., Philadelphia, Pa., Provisional Secretary.
A. S. BALL, M.D., New York, N. Y., Treasurer.

TWELFTH SESSION.

(*Held at Buffalo, N.Y., June* 6, 1855.)

C. H. SKIFF, M.D., New Haven, Conn., Chairman.
J. P. DAKE, M.D., Pittsburg, Pa., General Secretary.
A. H. BEERS, M.D., Buffalo, N. Y., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

THIRTEENTH SESSION.

(*Held at Washington, D. C., June* 4, 1856.)

G. W. SWAZEY, M.D., Springfield, Mass., Chairman.
F. R. McMANUS, M.D., Baltimore, Md., General Secretary.
J. MIDDLETON, M.D., Baltimore, Md., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

FOURTEENTH SESSION.

(*Held at Chicago, Ill., June* 3, 1857.)

J. P. DAKE, M.D., Pittsburg, Pa., Chairman.
D. S. SMITH, M.D., Chicago, Ill., General Secretary.
G. E. SHIPMAN, M.D., Chicago, Ill., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

FIFTEENTH SESSION.

(*Held at Brooklyn, N. Y., June* 2, 1858.)

D. S. SMITH, M.D., Chicago, Ill., Chairman.
WILLIAM E. PAYNE, M.D., Bath, Me., General Secretary.
E. T. RICHARDSON, M.D., Brooklyn, N. Y., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

SIXTEENTH SESSION.

(*Held at Boston, Mass., June* 1, 1859.)

P. P. WELLS, M.D., Brooklyn, N. Y., Chairman.
HENRY D. PAYNE, M.D., Albany, N. Y., General Secretary.
I. T. TALBOT, M.D., Boston, Mass., Provisional Secretary.
C. H. SKIFF., M.D., New Haven, Conn., Treasurer.

SEVENTEENTH SESSION.

(*Held at Philadelphia, Pa., June* 2, 1860.)

E. C. WITHERELL, M.D., Cincinnati, O., Chairman.
JACOB BEAKLEY, M.D., New York, N. Y., General Secretary.
HENRY M. SMITH, M.D., New York, N. Y., Provisional Secretary.
C. D. SKIFF, M.D., Brooklyn, N. Y., Treasurer.

EIGHTEENTH SESSION.*

(*Held at Cincinnati, Ohio, June* 7, 1865.)

S. S. GUY, M.D., Brooklyn, N. Y., President.
I. T. TALBOT, M.D., Boston, Mass., Vice-President.†
G. D. BEEBE, M.D., Chicago, Ill., General Secretary.
WILLIAM TOD HELMUTH, M.D., St. Louis, Mo., Provisional Secretary.
D. S. SMITH, M.D., Chicago, Ill., Treasurer.

NINETEENTH SESSION.

(*Held at Pittsburg, Pa., June* 6, 1866.)

J. S. DOUGLAS, M.D., Milwaukee, Wis., President.
S. R. BECKWITH, M.D., Cleveland, O., Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
HENRY B. CLARKE, M.D., New Bedford, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTIETH SESSION.

(*Held at New York City, N. Y., June* 4, 1867.)

WILLIAM TOD HELMUTH, M.D., St. Louis, Mo., President.
P. P. WELLS, M.D., Brooklyn, N. Y., Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
HORACE M. PAINE, M.D., Albany, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FIRST SESSION.

(*Held at St. Louis, Mo., June* 2, 1868.)

HENRY D. PAINE, M.D., New York, N. Y., President.
T. G. COMSTOCK, M.D., St. Louis, Mo., Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
H. L. CHASE, M.D., Cambridge, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

*No sessions were held during the Rebellion.

†By a change of the By-Laws, the Chairman became President, and the office of Vice-President was instituted at this session.

TWENTY-SECOND SESSION.

(*Held at Boston, Mass., June* 8, 1869.)

REUBEN LUDLAM, M.D., Chicago, Ill., President.
D. H. BECKWITH, M.D., Cleveland, O., Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
TIMOTHY F. ALLEN, M.D., New York, N.Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-THIRD SESSION.

(*Held at Chicago, Ill., June* 7, 1870.)

DAVID THAYER, M.D., Boston, Mass., President.
J. J. YOULIN, M.D., Jersey City, N. J., Vice-President.
REUBEN LUDLAM, M.D., Chicago, Ill., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FOURTH SESSION.

(*Held at Philadelphia, Pa., June* 6, 1871.)

D. H. BECKWITH, M.D., Cleveland, O., President.
J. D. TEMPLE, M.D., St. Louis, Mo., Vice-President.
REUBEN LUDLAM, M.D., Chicago, Ill., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FIFTH SESSION.

(*Held at Washington, D. C., June* 21, 1872.)

I. T. TALBOT, M.D., Boston, Mass., President.
J. J. YOULIN, M.D., Jersey City, N. J., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-SIXTH SESSION.

(*Held at Cleveland, Ohio, June* 3, 1873.)

ALVIN E. SMALL, M.D., Chicago, Ill., President.
J. C. BURGHER, M.D., Pittsburg, Pa., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-SEVENTH SESSION.

(*Held at Niagara Falls, N. Y., June* 9, 1874.)

JOHN J. YOULIN, M.D., Jersey City, N. J., President.
N. SCHNEIDER, M.D., Cleveland, O., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-EIGHTH SESSION.

(*Held at Put-in-Bay, Ohio, June* 16, 1875.)

WILLIAM H. HOLCOMBE, M.D., New Orleans, La., President.
L. E. OBER, M.D., La Crosse, Wis., Vice-President.
ROBERT J McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-NINTH SESSION.

(*Held at Philadelphia, Pa., June* 26 to *July* 1, 1876, *in conjunction with the World's Homœopathic Convention; the officers of the Institute being constituted the officers of the Convention.*)

CARROLL DUNHAM, M.D., Irvington-on-Hudson, N. Y., President.
E. C. FRANKLIN, M.D., St. Louis, Mo., Vice-President.
ROBERT J McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTIETH SESSION.

(*Held at Lake Chautauqua, N. Y., June* 26, 1877.)

E. C. FRANKLIN, M.D., St. Louis, Mo., President.
T. P. WILSON, M.D., Cincinnati, O., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-FIRST SESSION.

(*Held at Put-in-Bay, Ohio, June* 18, 1878.)

JOHN C. BURGHER, M.D., Pittsburg, Pa., President.
J. C. SANDERS, M.D., Cleveland, O., Vice-President.
ROBERT J McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SECOND SESSION.

(*Held at Lake George, N. Y., June* 17, 1879.)

CONRAD WESSELHOEFT, M.D., Boston, Mass., President.
N. FRANCIS COOKE, M.D., Chicago, Ill., Vice-President.
ROBERT J McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-THIRD SESSION.

(*Held at Milwaukee, Wis., June* 18, 1880.)

T. P. WILSON, M.D., Ann Arbor, Mich., President.
GEORGE A. HALL, M.D., Chicago, Ill., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
J. H. McCLELLAND, M.D., Pittsburg, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-FOURTH SESSION.

(*Held at Brighton Beach, N. Y., June* 14, 1881.)

J. W. DOWLING, M.D., New York, N. Y., President.
W. L. BREYFOGLE, M.D., Louisville, Ky., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
J. H. McCLELLAND, M.D., Pittsburg, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-FIFTH SESSION.

(*Held at Indianapolis, Ind., June* 13, 1882.)

W. L. BREYFOGLE, M.D., Louisville, Ky., President.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SIXTH SESSION.

(*Held at Niagara Falls, N. Y., June* 19, 1883.)

BUSHROD W. JAMES, M.D., Philadelphia, Pa., President.
O. S. RUNNELS, M.D., Indianapolis, Ind., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SEVENTH SESSION.

(*Held at Deer Park, Md., June* 17, 1884.)

JOHN C. SANDERS, M.D., Cleveland, O., President.
T. F. ALLEN, M.D., New York, N. Y., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-EIGHTH SESSION.

(*Held at St. Louis, Mo., June* 2, 1885.)

TIMOTHY F. ALLEN, M.D., New York, N. Y., President.
A. C. COWPERTHWAITE, M.D., Iowa City, Ia., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-NINTH SESSION.

(*Held at Saratoga Springs, N. Y., June* 28, 1886.)

O. S. RUNNELS, M.D., Indianapolis, Ind., President.
A. I. SAWYER, M.D., Monroe, Mich., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTIETH SESSION.

(*Held at Saratoga Springs, N. Y., June* 27, 1887.)

F. H. ORME, M.D., Atlanta, Ga., President.
A. R. WRIGHT, Buffalo, N. Y., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-FIRST SESSION.

(*Held at Niagara Falls, N. Y., June* 29, 1888.)

A. C. COWPERTHWAITE, M.D., Iowa City, Ia., President.
N. SCHNEIDER, M.D., Cleveland, O., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-SECOND SESSION.

(*Held at Minnetonka Beach, Minn., June* 24, 1889.)

SELDEN H. TALCOTT, M.D., Middletown, N. Y., President.
THEO. Y. KINNE, M.D., Paterson, N. J., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-THIRD SESSION.

(*Held at Waukesha, Wis., June* 16, 1890.)

ALFRED I. SAWYER, M.D., Monroe, Mich., President.
J. D. BUCK, M.D., Cincinnati, O., Acting President.
CHESTER G. HIGBEE, M.D., St. Paul, Minn., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Macon, Ga., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

[NOTE.—The appointment of an Acting President was made necessary by the illness of the President and the absence of the Vice-President.]

FORTY-FOURTH SESSION.

(*Held at Atlantic City, N. J., in Conjunction with the Fourth International Homœopathic Congress, June* 16, 1891)

THEO. Y. KINNE, M.D., Paterson, N. J., President.
JAMES H. McCLELLAND, M.D., Pittsburg, Pa., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Macon, Ga., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-FIFTH SESSION.

(Held at Washington, D. C., June 13, 1892.)

THEO. Y. KINNE, M.D., Paterson, N. J., President.
JAMES H. McCLELLAND, M.D., Pittsburg, Pa., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-SIXTH SESSION.

(Held at Chicago, Ill., 1893.)

JAMES H. McCLELLAND, M.D., Pittsburg, Pa., President.
C. E. FISHER, M.D., Chicago, Ill., First Vice-President.
MILLIE J. CHAPMAN, M.D., Pittsburg, Pa., Second Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-SEVENTH SESSION.

(Held at Denver, Col., 1894.)

JAMES H. McCLELLAND, M.D., Pittsburg, Pa., President.
C. E. FISHER, M.D., Chicago, Ill., First Vice-President.
MILLIE J. CHAPMAN, M.D., Pittsburg, Pa., Second Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Seretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FIFTY-FIRST SESSION.

(Held at Newport, R. I., 1895.)

CHARLES E. FISHER, M.D., Chicago., Ill., President.
J. B. GREGG CUSTIS, M.D., Washington, D. C., First Vice-President.
EUGENE F. STORKE, M.D., Denver, Col., Second Vice-President.
EUGENE H. PORTER, M.D., 181 W. 73d St., New York, N. Y., Gen. Sec.
FRANK KRAFT, M.D., Cleveland, O., Recording Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FIFTY-SECOND SESSION.

(Held at Detroit, Mich., 1896.)

PEMBERTON DUDLEY, M.D., Philadelphia, Pa., President.
D. A. MacLACHLAN, M.D., Detroit, Mich., First Vice-President.
J. C. BUDLONG, M.D., Providence, R. I., Second Vice-President.
EUGENE H. PORTER, M.D., 181 W. 73d St., New York, N. Y., Gen. Sec.
FRANK KRAFT, M.D., Cleveland, O., Recording Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
T. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

BY-LAWS.

ADOPTED JUNE 2, 1893.

Article I.—Meetings.

THIS Institute shall hold at least one session in each year, at such time and place as may be determined upon from time to time.

Article II.—Officers.

SECTION 1. The officers shall be elected by ballot at each annual session of the Institute, and shall enter upon their respective duties the first day of January following.

SEC. 2. The officers of the Institute, viz., the President, Vice-Presidents, General Secretary, Recording Secretary, Treasurer, and Assistant Treasurer, shall constitute an Executive Committee, which shall arrange the business of the session, attend to matters of business not otherwise specially provided for, and perform such other duties as may by vote of the Institute devolve upon them.

SEC. 3. The General Secretary shall be paid an annual salary of one thousand dollars.

Article III.—Duties of Officers.

SECTION 1. The President shall preside at the meetings of the Institute and perform the duies usually pertaining to his office, together with such others as may by vote of the Institute devolve upon him. He shall sign all certificates of membership. He shall deliver an address at the opening of each session, and make such suggestions as he may deem necessary for the Institute to take action on during the session; and he may also consider any subject relating to medical science.

SEC. 2. The Vice-Presidents in their order shall perform the duties of the President in his absence or disability.

SEC. 3. The General Secretary shall keep a record of the proceedings of the meetings, conduct the correspondence of the Institute, issue notices of meetings, notify members of their election, sign certificates of membership, and perform such other duties as the Institute may direct. It shall further be the duty of the Secretary to send to each Homœopathic journal published in the country, within two months after the adjournment of the annual meeting, a list of the officers for the ensuing year and the members of its sections.

SEC. 4. The Recording Secretary shall assist the General Secretary, and in his absence perform his duties.

SEC. 5. It shall be the special duty of the Recording Secretary to make, or provide, stenographic reports of all scientific discussions of the Institute and of its sections, and of all debates upon the reports and papers presented by

the Standing Committees. He shall send copies of these scientific discussions for revision and correction to their authors respectively, who shall be required to return them within one week after their reception, when they shall be furnished to the General Secretary for publication in the TRANSACTIONS. The compensation for such services shall be two hundred dollars per annum, and the necessary expenses of his attendance at the session shall be paid by the Institute.

SEC. 6. In the absence or disability of the Recording Secretary, his duties shall devolve upon the General Secretary.

SEC. 7. The Treasurer shall receive all money belonging to the Institute, and make all disbursements under the recommendation of the Executive Committee. He shall furnish at each annual meeting a written report of the condition of the finances.

SEC. 8. The Assistant Treasurer shall render aid to the Treasurer, and, in his absence or disability, perform his duties.

SEC. 9. There shall be elected annually a Registrar, who shall attend to the registration of members present at the annual sessions, the preparation of a daily roster, and the distribution of the appropriate badges to members and visitors. He shall make a full report to the General Secretary at the close of the annual meeting.

Article IV.—Censors.

There shall be a Board of Censors, consisting of five members (three of whom shall constitute a quorum), who shall receive and examine the credentials of candidates for membership, and report to the Institute for election such as may be found properly qualified. One member of said Board shall be elected by ballot at each annual session, to serve for five years from the first day of January next succeeding said election.

Article V.—Membership.

SECTION 1. Candidates for membership shall present to the Board of Censors a certificate of three members of the Institute that the applicant has pursued a regular course of medical studies according to the requirements of the existing institutions of this country, and sustains a good moral character and professional standing. Such certificate shall state when and where the applicant obtained a diploma. If found qualified, the candidate may be elected a member. No person shall be considered a member, however, before paying an admission fee of two dollars, and the annual dues, which shall entitle him to a certificate of membership.

SEC. 2. No physician, graduated subsequent to the year 1891, shall be eligible to membership, unless said graduation has followed three full annual courses of didactic and clinical lectures of not less than six months each.

SEC. 3. Members shall pay annually the sum of five dollars toward defraying the expenses of the Institute. The TRANSACTIONS of the Institute shall be sent to those members only who have paid their dues.

SEC. 4. Members neglecting the payment of dues for three years, after proper notification from the Treasurer, shall have their names dropped from the roll of membership. Any person thus dropped shall have the privilege of reinstatement by paying all arrearages, on recommendation of the Board of Censors.

SEC. 5. The Executive Committee shall be authorized to remit, *sub silentia*, the dues of those who, for ten years, have been in good membership and have paid their dues during that time, provided that such members are unable to continue the payment of their annual dues.

SEC. 6. All members of the Institute who have maintained twenty-five consecutive years of membership shall be considered *Senior Members*, and be exempt from the payment of annual dues; and the names of such members shall be printed first in the list of members, in capital letters.

SEC. 7. Any foreign physician may be elected a Corresponding Member of the Institute at any annual meeting, on recommendation of the Board of Censors, and shall have all the privileges of members, except voting and eligibility to office.

SEC. 8. The Institute may, at any annual meeting, elect as Honorary Members, not to exceed five in one year, any foreign physicians who may be judged worthy from their superior attainments in medicine; provided, that the names of persons proposed for Honorary Membership shall have been presented at a previous annual meeting. Such Honorary Members shall have all the privileges of members except voting and eligibility to office.

SEC. 9. The Institute may, at any annual meeting, elect as Honorary Associate Members, not to exceed three in any one year, any persons not members of the medical profession, who have in any way been of special service to science and humanity, and particularly those who have been special patrons of Homœopathy; and said Honorary Associate Members shall have all the privileges of Honorary Members.

SEC. 10. Any physician properly accredited as a Delegate shall be admitted during the session of the Institute to all the privileges of members, except voting and eligibility to office, on the following basis:

First. From every association composed of more than fifty members from different States, two delegates, with an additional delegate for every twenty members.

Second. From every State society, two delegates, with an additional delegate for every twenty members.

Third. From every county or local society, one delegate.

Fourth. From every hospital, asylum for the insane, or dispensary actually established, one delegate.

Fifth. From every medical journal published, one delegate.

Sixth. From every college associated with the Institute, two delegates; said delegates to constitute the Intercollegiate Committee of the Institute.

Article VI.—Sections.

SECTION 1. The following sections shall be appointed as hereinafter provided for:

a. Materia Medica and General Therapeutics.
b. Clinical Medicine and Pathology.
c. Obstetrics.
d. Gynecology.
e. Pedology.
f. Sanitary Science and Public Health.
g. Surgery.
h. Neurology and Electro-therapeutics.
i. Ophthalmology, Otology, and Laryngology.

SEC. 2. Each of these sections shall consist of not less than five members.

SEC. 3. The chairman of each section in his address shall include a *résumé* of progress in discovery in the special field to which said section pertains.

SEC. 4. The President shall appoint the chairmen of all sections for the ensuing year; and shall announce all such appointments as early in the progress of the session as practicable. But no member of a section who has failed to perform active service thereon shall be appointed to its chairmanship for the ensuing year.

SEC. 5. The chairman of each section, as soon as possible after appointment, shall select his associates and complete the organization of his section by the appointment of a secretary. He shall within one month after his appointment send to the General Secretary a list of the officers and members of his section. In case of failure to comply with the provisions of this section, the President is authorized to appoint another chairman.

SEC. 6. No member shall serve on more than one section in any one year. If any member's name occurs in more than one section he shall be notified by the Secretary to elect the one to which he wishes to be assigned.

SEC. 7. Vacancies occurring in any section may be filled by its chairman, who shall give immediate notice thereof to the General Secretary.

Article VII.—Committees.

SECTION 1. The following STANDING COMMITTEES shall be appointed, as hereinafter provided for:

a. Organization, Registration, and Statistics.
b. Legislation.
c. Medical Literature.
d. International Bureau of Homœopathy at Washington, D. C.
e. Intercollegiate.
f. Medical Education.
g. Drug Provings.

SEC. 2. The Committees on Legislation, Education and Drug Provings shall consist of five members each. The term of service of one member in each of these Committees shall expire each year. The Intercollegiate Committee shall consist of two delegates to be appointed by each college represented in the Institute, and shall appoint its own chairman. The Interstate Committee shall consist of two members of each State, to be appointed by the respective State Societies, the chairman shall be elected by the committee. The remaining Standing Committees shall consist of at least five members each, who shall serve for one year.

SEC. 3. There shall also be appointed each year Committees on Local Arrangements, on Transportation, on Press, on Resolutions and Business, and on the Memorial Service, of not less than three members each. The duties of said Committees shall be such as are indicated by their respective titles. All resolutions presented to the Institute shall be referred without debate to the Committee on Resolutions.

SEC. 4. The President, so far as these By-Laws require, shall appoint each of the Committees provided for in this article, immediately upon the presentation and disposition of its report.

SEC. 5. All Committees or members appointed to perform any special work under the authority of this Institute shall serve without compensation, unless otherwise specifically ordered.

SEC. 6. The President shall have the power to fill any vacancies that may occur in any committee during or between the sessions of Institute. Vacancies and elective offices may be filled by nomination and election in open meeting during any session of the Institute, the members-elect to hold such office until the arrival of the regular occupant. The Executive Committee may at any time when deemed necessary, fill any vacancy occurring in an elective office between the sessions of Institute, such appointee to hold office until the opening of the next regular session. Absence from the session of the Institute shall constitute a vacancy.

Article VIII.—Committee on Publication.

SECTION 1. The Committee on Publication shall consist of three members of the Institute, to be appointed annually by the Executive Committee, whose duty shall be to pass upon all papers or reports presented to the Institute, and the decision of such Committee as to the publication of papers or reports shall be final.

SEC. 2. No report or paper referred to the Committee on Publication shall be rejected except with the formal concurrence of a majority of said Committee. All papers so rejected shall be returned to their authors by the General Secretary.

SEC. 3. The TRANSACTIONS of the Institute shall be issued by the General Secretary, under the direction of the Committee on Publication, within five months after the close of the session, and copies shall be delivered to those entitled to them, without individual expense.

SEC. 4. There shall be published in each annual volume of the TRANSACTIONS: 1. A list of senior members arranged according to their years of membership. 2. An alphabetical list of members, including the names of senior members in CAPITALS. 3. A list of members classified by States. The complete list of Members of the Institute from its organization, and its Code of Ethics, shall be published every five years.

SEC. 5. The General Secretary shall furnish editorial copies of the TRANSACTIONS to such Homœopathic journals as are sent to the Institute in exchange and to other selected journals.

SEC. 6. The Secretary shall send copies of the Statistical Reports to all societies, hospitals, and dispensaries that make reports to the Committee on Organization, Registration, and Statistics.

Article IX.—Rules of Order.

SECTION 1. The names and residences of all applicants for membership shall be announced in alphabetical order by the Board of Censors in open session, at least six hours before their election is voted upon.

SEC. 2. The Report of the Necrologist shall be presented in connection with the Report of the Committee on Memorial Service.

SEC. 3. The time alloted to any Committee for the presentation of its report shall not exceed fifteen minutes. No report shall be received from any Committee except in writing.

SEC. 4. No report or paper shall be received by the Institute in an incomplete or unfinished condition, and no paper shall be published in the TRANSACTIONS which has been published previous to its presentation to the Institute,

or which is not handed to the General Secretary before the close of the session.

SEC. 5. Meetings of any section may be held at the call of its Chairman, provided such meetings be not held during the sittings of the Institute, nor during the meetings of the other sections, except as provided in the adopted Order of Business.

SEC. 6. In all discussions no speaker shall be allowed more than five minutes, nor to speak more than once upon the same subject, except by vote of consent taken in the usual manner.

SEC. 7. The election of officers for the ensuing year, and the determination of the next place for the meeting of the Institute, shall take place on the second morning of the session, at 10 A. M., Sunday excepted. The nominations shall be made on the first morning of the session, at 10 A. M., in the following way: Nomination papers shall be furnished by the General Secretary on the first day of the session, and any person receiving the indorsement of ten members shall be considered a nominee, provided no indorser's name appear on more than one paper for that office. If no nomination papers are handed in, it shall be the duty of the Executive Committee to see that at least one paper shall be prepared for each of the elective officers. No nomination shall be considered after the President has declared the nominations closed. These papers shall immediately be placed in charge of a special committee of three, to be appointed by the President, to which shall be added the Treasurer and Register *ex officio*. The duties of the committee shall be, first, to prepare an official ballot, on which the names of all nominees shall be placed in alphabetical order for the office to which they are nominated. Second. To take general charge of the election, which shall occur on the second morning of the Institute session, excepting Sunday, at 10 A. M., the polls to be open two hours, and in such manner as not to interfere with the general work of the session. Third. In conjunction with the General Secretary and Treasurer, to prepare a roster of members in good standing, which shall be used as a check-list and ultimate judge as to voting and qualifications of members. Upon declaration of the result, should no election be had for any office, the Institute shall, in open session, elect from the two candidates receiving the highest number of votes which person it prefers. Members shall vote by the method known as the Australian system, *i. e.*, putting a cross opposite the name of the person voted for. Should more marks be placed than the office calls for, such ballot shall be invalidated, so far as that particular office is concerned. The inspectors of election shall report when and as the Institute may direct.

SEC. 8. At the conclusion of the work of each section its Chairman shall present in writing to the Institute, in general session, a report of its meetings, and shall at the same time hand to the General Secretary its reports, addresses, and papers, which shall remain in his hands until the TRANSACTIONS are printed.

Article X.

All complaints relating to violations of the Code of Ethics for the Institute shall be referred to he Senate of Seniors for consideration and adjustment, and its decision shall be final, without further action of the Institute; except in such cases as require disciplinary action, when the Senate shall report to the Institute with recommendations.

Questions in dispute, having a bearing upon the general good of Homœopathy, which may be brought before the Institute for review and judgment, shall be referred to the Senate of Seniors for adjustment. In order to appeal from its decisions a two-thirds vote of members present and voting shall be necessary, said vote to be had without debate; all appeals thus ordered shall be heard at a special hour set for the purpose, and shall be considered in Executive Session.

Article XI.—Amendments.

These By-Laws may be altered or amended by a vote of two-thirds of the members present at any session of the annual meeting, provided that notice of such alteration or amendment shall have been given at the previous annual meeting. They may be suspended at any session of the annual meeting by a two-thirds vote of the members present.

STANDING RESOLUTIONS.

1. *Resolved,* That the American Institute of Homœopathy does not necessarily indorse the doctrine contained in the reports of committees by accepting and publishing such reports with the *Proceedings.—Adopted June* 4, 1867.

2. *Resolved,* That hereafter all provings by a single prover, presented through the Section in Materia Medica, Pharmacy, and Provings, be referred back to the section, to be retained by it until a sufficient number of provings are obtained to warrant the section in collating the same and presenting them to the Institute for publication; and such collation and presentation shall be a part of the duty of that section.—*Adopted June* 9, 1874.

3. *Resolved,* That this Institute condemns the action of any college which graduates an unsuccessful candidate from another college, unless he attends at least one full course of lectures at the college where he applies for a degree. —*Adopted June* 30, 1886.

4. *Resolved,* That in making up the list of existing journals illustrating Homœopathy by the Committee on Organization, Registration, and Statistics, and the Committee on Medical Literature, all such shall be embraced as avow the principle of similars as the denominating principle for the selection of drugs in the care of the sick, and which also support the organizations of Homœopathy as a distinctive body in the medical profession; that no journal thus listed shall be stricken off without formal notice through the General Secretary to the Institute of the reason for any proposed omission from the list, and then not without due notice and opportunity for defence on the part of the journal under consideration, final action on the case being deferred until the succeeding annual meeting. But the name of any journal may be dropped from the list before September, 1899, after failure to signify its assent to the preceding conditions of its listing, and, if assenting, after subsequent failure to make report to the Institute for three consecutive years.—*Adopted June* 27, 1899.

5. *Resolved,* That the American Institute of Homœopathy cordially endorses and approves the action of the Intercollegiate Committee, by which four years has been made the required term of medical study, and the studies of the

first year have been definitely arranged to include the preliminary studies requisite to more advanced medical instruction.

6. *Resolved,* That it is the duty of every member of the Institute to assist and sustain the medical colleges in their efforts.—*Adopted June* 20, 1890.

7. *Resolved,* That the Committee on Local Arrangements be instructed to respect the working hours of the Institute session, and to make no provision for entertainments to the members except during the intermissions of the session.—*Adopted June* 20, 1890.

8. *Resolved,* That the American Institute of Homœopathy, systematically, and from year to year, investigate the comparative mortality per cent., as shown in the Health Offices of all the larger cities of the United States, and give the results of said investigation the widest possible publicity.—*Adopted June* 17, 1892.

9. *Resolved,* That the Institute shall begin its annual session at or about the middle of the week, and continue as long as the work of the sections requires, according to the judgment of the Executive Committee.—*Adopted June* 1, 1893.

10. *Resolved,* That beginning with the session of 1895-96 all colleges recognized by the Intercollegiate Committee of the American Institute of Homœopathy shall require attendance on four courses of lectures of not less than six months each, in separate years.—*Adopted June* 20, 1894.

11. *Resolved,* That while the Intercollegiate Committee of the American Institute of Homœopathy would regard with favor any movement looking to the establishment of chairs of Homœopathic Therapeutics or Materia Medica in any college or university in which such chairs do not now exist, it would most unqualifiedly condemn any movement to transfer any existing Homœopathic institution to any old-school college in a manner which involves the surrender of its distinctive name, and under conditions which do not secure the recognition of distinctive chairs of Homœopathy.—*Adopted June* 20, 1894.

12. *Resolved,* That the Committee on Legislation shall, as opportunity may offer, encourage and promote legislation requiring that medical expert witnesses shall be appointed by the Courts, or other competent State authority outside of the medical profession, and paid by the county or State; provided, that in the choice of such witnesses the law and the appointing power shall not discriminate in favor of any particular school of medical practitioners.—*Adopted June* 2, 1898.

13. *Resolved,* That the duties of the Committee on Medical Education shall include an annual report in relation to the progress, the condition, and the

needs of educational work in our medical colleges and training-schools for nurses.—*Adopted June 2,* 1898.

14. *Resolved,* That the Executive Committee of the American Institute of Homœopathy be the Committee of Arrangements, with a local auxiliary committee, in order that the officers of the Institute may control the important matters connected with the meeting.—*Adopted June 2,* 1898.

Complete Report of the Board of Censors.

PHYSICIANS ELECTED TO MEMBERSHIP.

ADAMS, CHARLES F.....229 Union St., Hackensack, N. J.
New York Homœopathic Medical College and Hospital, 1984.

ADAMS, T. LOUIS.....1831-33 Chestnut St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1880.

ALLEN, HERBERT C.....310 Clermont Ave., Brooklyn, N. Y.
New York Homœopathic Medical College, 1896.

ALLEN, J. WILFORD.....110 W. 12th St., New York, N. Y.
New York Homœopathic Medical College and Hospital, 1895.

APLYNNE, GUY E.....1214 Main St., Kansas City, Mo.
The Kansas City Homœopathic Medical College, 1899.

APPLETON, LUCY.....160 West Brookline St., Boston, Mass.
Boston University School of Medicine, 1887.

ARTHUR, ALEXANDER BECK.....2039 Spring Garden St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1896.

ASHCRAFT, LEON THOMAS.....1833 Chestnut St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1890.

AURAND, SAMUEL HERBERT.....720 Washington Boulevard, Chicago, Ill.
Hahnemann Medical College, Chicago, 1884.

BALL, JOSEPH HARRIS.....Ann Arbor, Mich.
University of Michigan, Homœopathic Department, 1898.

BALLIET, LORENZO DOW..... .....1001 Atlantic Ave., Atlantic City, N. J.
Hahnemann Medical College, Philadelphia, Pa., 1880.

BEELER, MARGARET HOFER..... .....Denver, Col.
The Denver Homœopathic Medical College, 1899.

BELVILLE, JACOB EDGAR.....5915 Greene St., Philadelphia, Pa.
Boston University, 1883.

BENNETT, RUTH PARKER.....Lincoln St. and Pacific Ave., Santa Cruz, Cal.
Hahnemann Medical College and Hospital, Chicago, 1893.

BENTHACK, PETER L.....Platte Center, Neb.
The Kansas City Homœopathic Medical College, 1899.

BERGERON, EMMA G.....326 West 34th St., New York City, N. Y.
Hahneman Medical College and Hospital, Chicago, 1896.

BISHOP, HUDSON D.....143 Euclid Ave., Cleveland, Ohio.
Cleveland Homœopathic Hospital College, 1890.

BILTNER, ALBERT J.....1036 Hamilton St., Allentown, Pa.
Boston University School of Medicine, 1893.

BONNELL, CHARLES LEWIS..... ...3 Hanson Place, Brooklyn, N. Y.
Hahnemann Medical College, Philadelphia, 1871.

BROSIUS, MARY ALICE.....1101 K St., Washington, D. C.
Columbian University and Southern Homœopathic College, 1894-95.

BROWN, ALICE BARLOW.....181 Dearborn Ave., Chicago, Ill.
Hahnemann Medical College and Hospital, 1896.

BROWN, DANIEL E.....95 Main St., Brockton, Mass.
Hahnemann Medical College, Philadelphia, 1886.

BROWNELL, J. ROBERT.....Main St., Warsaw, N. Y.
Chicago Homœopathic Medical College, 1899.

BRUCE, AUGUSTUS H.....Wolcott, N. Y.
Chicago Homœopathic Medical College, 1886.

BRUNNER, EDGAR P.....1108 Spring Garden St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1869.

BURLINGAME, FRANK W.....McKeesport, Pa.
Cleveland Homœopathic Hospital College, 1882.

BURRITT, MARTHA CLARK.....313 5th St., S.E., Washington, D. C.
Southern Homœopathic Medical College, 1898.

BUSENBARK, LUCY M .....The Iliad, Des Moines, Iowa.
Hahnemann Medical College, Chicago, 1889.

CAMERON, IDA B.....2653 Howard St., San Francisco, Cal.
Hahnemann Hospital College, San Francisco, 1895.

CAMPBELL, DUNCAN.....Woodbury, N. J.
Hahnemann Medical College, Philadelphia, 1894.

CARR, HENRY H.....Mullica, N. J.
Hahnemann Medical College, Philadelphia, 1885.

CARTER, WOODWARD D.....1533 So. 15th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1894.

CHAFFEE, JOHN D.....Garden Grove, Cal.
Hahnemann Medical College, San Francisco, 1887.

CHAMPLIN, JOHN CARDER.....Hygeia Hotel, Block Island, R. I.
Boston University School of Medicine, 1885.

CHASE, J. OSCOE.....214 E. 53d St., New York City, N. Y.
New York Homœopathic Medical College, 1887.

CLEMENS, FRANK L.....233 W. Chestnut St., Canton, Ill.
Hahnemann Medical College, Chicago, 1891.

CLINGAN, THOMAS O.....22 Main St., Niles, Ohio.
Homœopathic Hospital College, Cleveland, 1884.

COLE, HARLAN PAGE.....135 Sigourney St., Hartford, Conn.
New York Homœopathic Medical College, 1872.

COLT, EMILY S.....2327 Tracy Ave., Kansas City, Mo.
Hahnemann Medical College, Chicago, 1881.

COMPTON, GEORGE W.....Ophir, Col.
Denver Homœopathic College, 1898.

COMSTOCK, WILLIAM C.....407 N. Charles St., Baltimore, Md.
Hahnemann Medical College, Philadelphia, 1896.

CORWIN, ELIZABETH.....104 Main St., Binghamton, N. Y.
New York Medical College and Hospital for Women, 1886.

COTTON, ALONZO A.....Vermillion, So. Dakota.
Homœopathic Med. Dept. State University, Ohio, 1886.

CROMWELL, LYDIA HERTS.....Galen Hall Sanitorium, Atlantic City, N. J.
Hahnemann Medical College, Chicago, 1896.

DAVIS, CHARLES A.....1010 15th St., Washington, D. C.
Hahnemann Medical College, Philadelphia, 1884.

DAVIS, FREDERICK A.....80 Huntington Ave., Boston, Mass.
Hahnemann Medical College, Philadelphia, 1884.

DAVIS, THOMAS S.....603 Park Ave., Plainfield, N. J.
Hahnemann Medical College, Philadelphia, 1884.

DEHOFF, JOHN W.....453 W. Market St., York, Pa.
Hahnemann Medical College, Philadelphia, 1876.

DIEMAR, LENA HESS.....1626 Mass. Ave., Cambridge, Mass.
Boston University, School of Medicine, 1898.

DUFFIELD, ALICE VIRGINIA.....5537 Madison Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1899.

DUNCAN, JAMES CATION.....131 W. 4th St., DeKalb, Ill.
Chicago Homœopathic Medical College, 1887.

DUNHAM, GEORGE P.....252 Broadway, Lawrence, Mass.
Boston University, School of Medicine, 1891.

EALER, PERCY H.....815 N. 24th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1890.

ELLIS, KATE WALTON.....4120 Lake Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1898.

ENBANKS, WILLIAM CICERO.....306 Broadway, Paducah, Ky.
Pulte Medical College, Cincinnati, Ohio, 1892.

EVANS, JOHN A.....1918 Penn. Ave., Baltimore, Md.
Hahnemann Medical College, Philadelphia, 1895.

FARWELL, CHARLES LUTHER.....384 Cambridge St., Boston, Mass.
Boston University, School of Medicine, 1893.

FAY, GEORGE DEWITT.....23 Bay View Ave., Atlantic Highlands, N. J.
Hahnemann Medical College and Hospital, Philadelphia, 1881.

FISCHER, J. A.....505 Greene St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1895.

FISHER, WM. H.....412 Nicollet Ave., Minneapolis, Minn.
Pulte Medical College, Cincinnati, Ohio, 1876.

FOOTE, THEODORE.....636 Wood St., Vineland, N. J.
New York Homœopathic Medical College, 1874.

FRAZER, C. A.....Ill. Mutual Bank Bldg., Springfield, Ill.
Chicago Homœopathic Medical College, 1887.

GARDINER, WILLIAM G.....158 S. Pennsylvania Ave., Atlantic City, N. J.
Hahnemann Medical College, Philadelphia, 1888.

GARIS, FRANK A.....220 W. Broad St., Bethlehem, Pa.
Hahnemann Medical College, Philadelphia, 1889.

GARRISON, BIDDLE H.....Nat. Homœopathic Hos., Washington, D. C.
Hahnemann Medical College, Philadelphia, 1898.

GILBERT, CHARLES E.....323 W. 23d St., New York City, N. Y.
New York Homœopathic Medical College, 1870.

GILBERT, WM. WALLACE.....241 S. Jefferson Ave., St. Louis, Mo.
Homœopathic Medical College, Missouri, 1898.

GOODELL, CHARLES F.....19 E. Patrick St., Frederick, Md.
Hahnemann Medical College, Philadelphia, 1883.

GOODRICK, MORRIS H.....360 W. Col. Ave., Jacksonville, Ill.
Cleveland Homœopathic Hospital College, 1881.

GOSS, ALICE MORGAN.....606 Sutter St., San Francisco, Cal.
Hahnemann Medical College, Chicago, Ill., 1890.

GRAFTON, EDGAR A.....6 Phillips Place, Montreal, Can.
McGill University, 1891.

GRISCOM, L. E.....919 So. 5th St., Camden, N. J.
Hahneman Medical College, Philadelphia, 1895.

GROSS, FRANCIS O.....1506 N. 7th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1880.

GRUMBRECHT, OSCAR L.....139 High St., Mt. Holly, N. J.
Hahnemann Medical College, Philadelphia, 1890.

HAEHL, RICHARD.....Stuttgart, Germany.
Hahnemann Medical College, Philadelphia, 1898.

HANSEN, ANDREAS SCHANTZ.....Cedar Falls, Iowa.
Homœopathic Medical Department, Iowa State University, 1893.

HASELTINE, BURTON.....Y.M.C.A. Bldg., Evanston, Ill.
Hahnemann Medical College, Chicago, 1896.

HARRIS, JOHN W.....632 17th St., Denver, Col.
Chicago Homœopathic College, 1888.

HAYWARD, ABNER.....27 Sutton Place, New York City, N. Y.
New York Homœopathic Medical College and Hospital, 1899.

HAYWOOD, JULIA F.....612 West Ave., Rochester, N. Y.
St. Louis College of Homœopathic Physicians and Surgeons, 1881.

HERITAGE, J. B.....Langhorne, Pa.
Hahnemann Medical College, Philadelphia, 1891.

HERTZ, SUE EMMA.....102 W. 44th St., New York City, N. Y.
The New York Medical College and Hospital for Women, 1899.

HILLS, HOWARD B.....31 West Wood St., Youngstown, Ohio.
Pulte Medical College, Cincinnati, Ohio, 1888.

HOBSON, SARAH MATILDA.....7528 Saginaw Ave., Chicago, Ill.
Boston University, Medical School, 1890.

HOLMES, ABBEY VIRGINIA.....1512 So. 29th St., Omaha, Neb.
Hahnemann Medical College, Chicago, 1899.

HORNBY, MARY STAMPER.....1 Monadnock St., Dorchester, Mass.
Boston University, School of Medicine, 1891.

HOUSE, CHARLES E.....609 West Tuscarawas, Canton, Ohio.
Cleveland Homœopathic College, 1882.

HOUSE, WALLACE B.....Flower Hospital, 63d St. and Ave. A., New York City, N. Y.
New York Homœopathic Medical College and Hospital, 1899.

HOWARD, ALONZO GALE.....1977 Centre St., West Roxbury, Mass.
Boston University, School of Medicine, 1895.

HOWLETTE, GEORGE C.....Atkinson, Ill.
Chicago Homœopathic College, 1880.

HUGHES, CHARLES WILSON.....East Palestine, O.
Pulte Medical College, 1893.

HUMPHREYS, EDWARD.....Somerton, Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1881.

HUNT, ELLA G.....608 W. 8th St., Cincinnati, Ohio.
Hahnemann Medical College, Chicago, 1893.

HUTCHINSON, JOHN.....693 Madison Ave., New York City, N. Y.
The New York Homœopathic Medical College and Hospital, 1898.

JEFFERY, GEO. CLINTON.....343 Jefferson Ave., New York City, N. Y.
Pulte Medical College, Cincinnati, Ohio, 1875.

JENKINS, GEO. HAMILTON.....139 Main St., Binghamton, N. Y.
New York Homœopathic College and Hospital, 1889.

JONES, EVERETT.....1618 Beacon St., Brookline, Mass.
Boston University, School of Medicine, 1898.

JORDON, OSCAR J.....704 Snyder Ave., Philadelphia, Pa.
Hahnemann Medical College, Phildelphia, 1890.

JUSTICE, HARRY B.....14 S. 3d St., Ironton, Ohio.
Hahnemann Medical College, Philadelphia, 1894.

KASE, EDMUND HARRIS.....1325 Girard Ave., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1888.

KEPPEL, FREDERICK D.....Owenton, Ky.
Southern Homœopathic Medical College, Baltimore, 1897.

KISTLER, HORACE EDWIN.....313 Main St., Johnstown, Pa.
Hahnemann Medical College, Philadelphia, 1885.

KLINE, ANDREW K.....Princeton, N. J.
New York Homœopathic Medical College and Hospital, 1888.

KLINE, DAVID C.....5th and Chestnut Sts., Reading, Pa.
Hahnemann Medical College, Philadelphia, 1883.

KNOWLTON, WILLIAM WALDO.....113 S. 16th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia.

KRUSEN, EDWARD A.....Collegeville, Pa.
Hahnemann Medical College, Philadelphia, 1887.

KURTZ, ALFRED J.....1531 S. 13th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1893.

LAND, JOSEPH FOSTER.....130 W. 126th St., New York City, N. Y.
Dartmouth College, Medical Department, 1876.

LAUGHLIN, THOMAS LIVEZEY.....2126 N. Park Ave., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1899.

LEE, GEORGE HYDE.....1620 Fifteenth St., Washington, D. C.
The Homœopathic Hospital College, Cleveland, 1876.

LEIPOLD, WILLIAM C. A .....3701 Cottage Grove Ave., Chicago, Ill.
Hering Medical College and Hospital, 1896.

LEOPOLD, HERBERT PRESTON.....310 W. Chelton Ave., Germantown, Pa.
Hahnemann Medical College, 1896.

LEWIS, J. PERRY.....28th St. and National Ave., San Diego, Cal.
Hahnemann Medical College and Hospital, Chicago, 1895.

LICHTENWALER, ABBOTT B.....2435 N. 7th St., Philadelphia, Pa.
Hahnemann Medical College, 1891.

LOW, JOSEPH H.....2458 Indiana Ave., Chicago, Ill.
Chicago Homœopathic Medical College, 1888.

LYON, MELVERN S .....24 W. Main St., Haddonfield, N. J.
Hahnemann Medical College, Philadelphia, 1889.

LYONS, MATILDA JAMISON.....Cadiz, Ohio.
University of Michigan, 1887.

MACKENZIE, GEORGE W.....Somerton, Pa.
Hahnemann Medical College, Philadelphia, 1893.

MARTIN, FREDERICH H.....Milwaukee, Wis.
Hahnemann Medical College, Chicago, 1899.

MASTIN, JAMES WILLIAM.....25 Eighteenth Ave., Denver, Col.
Denver Homœopathic Medical College, 1898.

MCBEAN, GEORGE MARTIN.....3326 Vernon Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1899.

MCGRANAGHAN, W. H.....220 W. Federal St., Youngstown, Ohio.
Hahnemann Medical College, Philadelphia, 1876.

MCHARRIE, WILLIAM.....53 Prince Arthur St., Montreal, Can.
Chicago Homœopathic Medical College, 1895.

MILLER, MARY.....Atlantic City, N. J.
Woman's Homœopathic Medical College, New York City, 1878.

MORROW, EMORY H.....943 17th St., Altoona, Pa.
Cleveland Homœopathic Hospital College, 1883.

MOSELEY, GEORGE T.....202 Delaware Ave., Buffalo, N.Y.
N. Y. Homœopathic Med. College, 1885, College of Physicians and Surgeons, N. Y., 1887.

MOSLANDER, WILLIAM S.....837 Penn St., Camden, N. J.
Hahnemann Medical College, Philadelphia, 1889.

MUDGE, KATHERINE G.....309 Essex St., Salem, Mass.
Boston University, School of Medicine, 1880.

MUNCIE, LIBBIE HAMILTON.....119 Macon St., Brooklyn, N. Y.
The New York Medical College and Hospital for Women, 1891.

MURPHY, SARAH A.....727½ Eighth St., Louisville, Ky.
Southwestern Homœopathic College, Louisville, Ky., 1896.

NEVIN, J. LAWRENCE.....158 Bowers St., Jersey City, N. J.
New York Homœopathic Medical College and Hospital, 1878.

NOBLE, DANIEL COOK.....Middlebury, Vt.
New York Homœopathic Medical College, 1892.

OSTRANDER, JASPER ANNIS.....Suisun, Cal.
Hahnemann Hospital College, San Francisco, 1888.

PALEN, GILBERT J.....Main and Walnut Sts., Germantown, Pa.
Hahnemann Medical College, Philadelphia, 1895.

PALMER, GEORGE HENRY.....606 Sutter St., San Francisco, Cal.
New York Homœopathic Medical College, 1865.

PARSONS, CLARICE JOHNSTON.....347 St. James Ave., Springfield, Mass.
New York Medical College and Hospital for Women.

PARTRIDGE, BARTON SCOTT.....East Bloomfield, N. J.
Pulte Medical College, 1883.

PATTERSON, JOSEPH M.....306 Commerce Bldg., Kansas City, Mo.
Pulte Medical College, 1887.

PATTON, ARTHUR DOUGLAS.....64 Crescent St., Montreal, Can.
Chicago Homœopathic College, 1895.

PAUL, WILLARD A.....9 Standish St., Dorchester, Boston, Mass.
Hahnemann Medical College, Chicago, 1881.

PAXSON, OLIVER H.....123 N. 16th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1890.

PAYNE, CLARENCE NILES.....273 State St., Bridgeport, Conn.
New York Homœopathic Medical College, 1885.

PAYNE, HANNAH JONES.....630 Jackson Bldg., Chicago, Ill.
Hahnemann Medical College and Hospital, Chicago, 1896.

PEASLEY, EMMA J.....70 Central St., Somerville, Mass.
Boston University, 1891.

PECK, FRED. JOHNSON.....44 Main St., Ansonia, Conn.
Homœopathic Department, University of Michigan, 1892.

PEDDICORD, HARPER.....1122 Mount St., Baltimore, Md.
Southern Homœopathic Medical College, 1899.

PERKINS, NATHANIEL R.....1123 Adams St., Boston, Mass.
Boston University, 1876.

PETERSON, PIERSON B.....Honesdale, Pa.
Pulte Medical College, 1891.

PETTIT, EVELYN SARAH.....1109 3d Ave., New Brighton, Pa.
Cleveland Medical College, 1894.

PIATTI, VIRGIL C.....Greenwich Ave., Greenwich, Conn.
New York Homœopathic Medical College, 1891.

PIERCE, OSCAR F.....846 W. 22d St., Chicago, Ill.
Hahnemann Medical College, Chicago, 1890.

PIERRON, HENRY J.....438 Greene Ave., Brooklyn, N. Y.
New York Homœopathic Medical College, 1884.

PIPER, FRED. SMITH.....Massachusetts Ave., Lexington, Mass.
Boston University, School of Medicine, 1890.

POTTER, CLARENCE ALBERT.....State Hom. Hos., Gowanda, N. Y.
The New York Homœopathic Medical College and Hospital, 1897.

POWELL, FRANKLIN.....241 E. 5th St., Chester, Pa.
Hahnemann Medical College, Philadelphia, 1881.

PYLE, HAROLD WARD.....5 W. College St., Oberlin, O.
Cleveland Homœopathic Medical College, 1897.

RAMSDELL, OSCAR LUMAN.....315½ Mitchell St., Petoskey, Mich.
University of Michigan Medical Department, 1893.

RAUE, C. SIGMUND.....121 N. 10th St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1895.

REINHOLD, HANNAH C.....761 W. Fourth St., Williamsport, Pa.
Homœopathic Medical College, State University, Iowa, 1892.

RICE, HARRY EDWIN.....236 State St., Springfield, Mass.
New York Homœopathic Medical College, 1883.

RICHERT, PETER.....Goessel, Kan.
Kansas City Homœopathic Medical College, 1893.

RITTENHOUSE, JACOB S.....38 S. 4th St., Reading, Pa.
Hahnemann Medical College, Philadelphia, 1885.

ROBINSON, NATHANIEL.....89 Halsey St., Brooklyn, N. Y.
New York Homœopathic Medical College, 1885.

ROCKWELL, ALFRED E. P.....248 Main St., Worcester, Mass.
Boston University, School of Medicine, 1899.

ROCKWELL, JOHN ARNOLD, Jr.....3 Worcester Square, Boston, Mass.
Boston University, School of Medicine, 1899.

SAGER, CYRIL WICKFIELD.....108 W. Main St., Titusville, Pa.
Hahnemann Medical College, Philadelphia, 1894.

SAWYER, WILLIS HERBERT.....The Peabody, Ashmont St., Boston, Mass.
The New York Homœopathic Medical College and Hospital, 1888.

SCHOLLENBERGER, LEWIS A.....637 Walnut St., Reading, Pa.
Hahnemann Medical College, Philadelphia, 1885.

SHALLCROSS, ISAAC G.....1617 Arch St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1887.

SHERMAN, JAMES TURNER.....29 Virginia St., Boston, Mass.
New York Homœopathic Medical College, 1869.

SHINN, CHARLES T.....17 E. Penn St., Norristown, Pa.
Hahnemann Medical College, Philadelphia, 1891.

SHOEMAKER, DANIEL W.....1924 Green St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1881.

SHORT, ZUBER N.....428 Central Ave., Hot Springs, Ark.
Hahnemann Medical College, Philadelphia, 1895.

SHOWER, GEORGE T.....421 Roland Ave., Baltimore, Md.
Hahnemann Medical College, Philadelphia, 1882.

SIEGFRIED, JOHN P.....58 Center St., Ashtabula, Ohio.
Hahnemann Medical College, Chicago, 1888.

SILBERNAGEL, CHARLES EDWARD.....657 N. High St., Columbus, Ohio.
Cleveland Homœopathic Medical College, 1898.

SIMMONS, HARRY BENGE.....18 Market Space, Chestertown, Md.
Pulte Medical College, Cincinnati, 1899.

SIMPSON, EDWIN D.....320 W. 115th St., New York City., N. Y.
College of Physicians and Surgeons, New York City, N. Y., 1874.

SMILIE, NATHAN.....4624 Chester Ave., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, Pa., 1894.

SMITH, CONRAD.....279 Dartmouth St., Boston, Mass.
Boston University, School of Medicine, 1889.

SMITH, FRANCIS A.....18 S. 4th St., Zanesville, O.
Pulte Medical College, Cincinnati, 1891.

SPAULDING, HARRY OSGOOD.....519 Beacon St., Boston, Mass.
Boston University, School of Medicine, 1897.

SPENCER, ANNIE WHITNEY.....25 Batavia Ave., Batavia, Ill.
Hahnemann Medical College, Chicago, 1896.

STARCKE, ANDREW H.....639 Kansas Ave., Kansas City, Kan.
The Kansas City Homœopathic Medical College, 1895.

STENHOUSE-GOODRICH, A. AMELIA.....7142 Emerald Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1884.

STEWART, WILLIAM A.....1500 20th St., N.W., Washington, D. C.
New York Homœopathic Medical College, 1894.

STIRK, JAS. C.....4700 Chestnut Ave., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1891.

STRAUGHN, CLINTON C.....Matawan, N. J.
Hahnemann Medical College, Philadelphia, 1896.

SWEET, CLARA M.....2 Maple St., Springfield, Mass.
Boston University, School of Medicine, 1894.

TALMAGE, SAMUEL.....22 Schermerhorn St., Brooklyn, N. Y.
The University of New York City, Medical Department, 1870.

THEILMANN, EMIL.....Fulton, Mo.
Kansas City Homœopathic Medical College, 1897.

THOMAS, ARTHUR E.....3200 Indiana Ave., Chicago, Ill.
Chicago Homœopathic Medical College, 1892.

TINDALL, VAN R.....323 Reed St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1864.

TREW, BARTUS.....315 Paca St., Baltimore, Md.
Hahnemann Medical College, Philadelphia, 1891.

TUPPER, JOHN DARROW.....Westport, Mass.
Boston University, School of Medicine, 1895.

VAN DELINDER, EFFIE M.....556 Public Ave., Beloit, Wis.
Hahnemann Medical College, Chicago, 1891.

VAN DERVEER, GEO. W.....Garden St., Mt. Holly, N. J.
Hahnemann Medical College, Philadelphia, 1873.

VAN GUNTEN, FRED. W.....1432 Diamond St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1889.

VARNEY, EDITH CHARLES.....132 Broad St., Lynn, Mass.
Boston University, School of Medicine, 1893.

WALLS, CHARLES BRUCE.....144 So. Kedzie Ave., Chicago, Ill.
Chicago Homœopathic Medical College, 1894.

WARD, CHARLES AUSTIN.....33 Court St., Binghamton, N. Y.
New York Homœopathic Medical College and Hospital, 1887.

WAY, FRANK E.....Wahoo, Neb.
Boston University, School of Medicine, 1890.

WEAVER, HARRY SANDS.....1621 Chestnut St., Philadelphia, Pa.
Hahnemann Medical College, Philadelphia, 1892.

WEBSTER, GEO. C.....305 W. 7th St., Chester, Pa.
Hahnemann Medical College, Philadelphia, 1893.

VON-WEDELSTAEDT, GEO. SPARR.....San Mateo, Cal.
Homœopathic College of Medicine and Surgery, University of Minnesota, 1897.

WELLS, DAVID WASHBURN.....391 Boylston St., Boston, Mass.
Boston University, School of Medicine, 1897.

WESTNEY, ALFRED W.....1302 Pacific Ave., Atlantic City, N. J.
Hahnemann Medical College, Philadelphia, 1897.

WHITAKER, EUGENE E.....Newport, Vermont.
Long Island College and Hospital, 1881.

WILKINS, DAVID W.....5219 Washington Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1897.

WINSLOW, THOMAS HARTLEY.....2323 Fillmore St., San Francisco, Cal.
Hering Medical College and Hospital, 1896.

WISWALL, EDWARD H.....Washington St., Wellesley, Mass.
Boston University, School of Medicine, 1887.

WOODWARD, HERBERT B.....3034 Michigan Ave., Chicago, Ill.
Hahnemann Medical College, Chicago, 1897.

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BOOTHBY, A.,	Boston, Mass.
COOPER, J. F.,	Philadelphia, Pa.
CHASE, H. L.,	Cambridgeport, Mass.
CHURCH, C. A.,	Passaic, N. J.
CROSS, H. B.,	Jamaica Plain, Boston.
COMSTOCK, T. G.,	St. Louis, Mo.
CUSHING, ALVIN M.,	Springfield, Mass.
DOUGHTY, F. E.,	New York City.
DUNCAN, T. C.,	Chicago, Ill.
DUDLEY, PEMBERTON,	Philadelphia, Pa.
EDMUNDSON, WALTER F.,	Pittsburg, Pa.
FISHER, CHAS. E.,	Chicago, Ill.
FOGER, CHARLES B.,	Harrisburg, Pa.
HEDGES, S. P.,	Chicago, Ill.
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JAMES, B. W.,	Philadelphia, Pa.
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LENTZ, L. R.,	Pennsylvania.
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MCGEORGE, WALLACE,	Camden, N. J.
MIDDLETON, C. S.,	Philadelphia, Pa.
MIDDLETON, M. F.,	Camden, N. J.
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DUNLEVY, RITA,	New York, N. Y.
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DEWEY, W. A.,	Ann Arbor, Mich.
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DEHOFF, JOHN W.,	York, Pa.
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FAUST, LOUIS,	Schenectady, N. Y.
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FLINN, I. M.,	Wilmington, Del.
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HASSLER, J. WYLLIS,	Philadelphia, Pa.
HURD, S. WRIGHT,	Lockport, N. Y.
HENRY, SAMUEL D.,	Excelsior Sp., Mo.
HAUSE, R. B.,	Springfield, Ohio.
HANCOCK, JOS.,	Philadelphia, Pa.
HUBBARD, CHAS. H.,	Chester, Pa.
HOEY, W. F.,	Frederica, Del.
HALL, P. S.,	Philadelphia, Pa.
HANCOCK, E. E.,	Philadelphia, Pa.
HARRISON, H. A.,	Cooperstown, N. Y.
HOOVER, J. RICHEY,	Cleveland, Ohio.
HALL, H. B.,	Riverton, N. J.
HUSSLER, W. A.,	Allentown, Pa.
HALSEY, G. W.,	Boston, Mass.
HELFRICH, CHAS. W.,	New York City, N. Y.
HANCHETT, W. H.,	Omaha, Neb.
HAMLIN, T. W.,	New York City, N. Y.
HUGHES, C. W.,	East Palestine, Ohio.
HANCHETT, A. P.,	Council Bluffs, Iowa.
HUNT, J. S.,	Athens, Ohio.
HENDRY, CLARA A.,	Oak Park, Chicago, Ill.
HELMUTH, W. T., JR.,	New York City, N. Y.
HARTMANN, W. L.,	Syracuse, N. Y.
HAZARD, T. L.,	Iowa City, Iowa.
HOYT, MARY O.,	Keokuk, Iowa.
HALLOCK, J. H.,	Saranac Lake, N. Y.
HARRELL, A. S.,	Noblesville, Ind.
HUMPHRY, E.,	Somerton, Pa.
HAINES, O. S.,	Philadelphia, Ind.
HOUSE, W. B.,	New York City, N. Y.
HAZARD, F. L.,	Iowa City, Iowa.
JONES, HENRY C.,	Mt. Vernon, N. Y.
JUSTICE, H. B.,	Ironton, Ohio.
JENKINS, RALPH,	Washington, D. C.
JAMES, BUSHROD W.,	Philadelphia, Pa.
JENKINS, GEO, H.,	Binghamton, N. Y.
JEWETT, E. H.,	Cleveland, Ohio.
JAMES, B.,	Philadelphia, Pa.
KRAFT, FRANK,	Cleveland, Ohio.
KINYON, C. B.,	Ann Harbor, Mich.
KINGSMAN, RICHARD,	Washington, D. C.
KING, W. R.,	Washington, D. C.
KURTZ, A. J.,	Philadelphia, Pa.
KING, W. H.,	New York City, N. Y.
KNOWLTON, W. W.,	Philadelphia, Pa.
KEEGAN, WM. A.,	Rochester, N. Y.
KISTLER, HORACE E.,	Johnstown, Pa.
KENNEDY, A. L.,	Washington, D. C.
KEELER, ELMER E.,	Syracuse, N. Y.
KESTLER, A. L.,	Allentown, Pa.
KEHOE, H. C.,	Flemingburg, Ky.

KALST, T. A.,	Chicago, Ill.
KRUZEN, E. A.,	Collegeville, Pa.
KINNE, E. O.,	Syracuse, N. Y.
KREIDER, M. K.,	Goshen, Ind.
KARSNER, CHAS. T.,	Philadelphia, Pa.
KARSNER, WM.,	Chesapeake City, Md.
KROGSTAD, H.,	Washington, D. C.
KLINE, A. K.,	Princeton, N. J.
KING, WM. H.,	New York City, N. Y.
KORNDORFER, AUG.,	Philadelphia, Pa.
KIERTZ, A. J.,	Philadelphia, Pa.
KLINE, DAVID C.,	Reading, Pa.
LEWIS, FRED. D.,	Buffalo, N. Y.
LUNGER, J. S.,	Prospect, Ohio.
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LINN, A. M.,	Des Moines, Ohio.
LEAVITT, H. H.,	Minneapolis, Minn.
LEWIS, F. PARK,	Buffalo, N. Y.
LINNELL, E. H.,	Norwich, Conn.
LUYTIES, C. J.,	St. Louis, Mo.
LARKEQUE, G. B.,	Athol, Mass.
LEALAND, C. H.,	Lowell, Mass.
LENFERTY, JOHN A.,	Mt. Clemens, Mich.
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LICHTENWALNER, A. B.,	Philadelphia, Pa.
LAWRENCE, G. W.,	Colorado Springs, Col.
LEOPOLD, H. P.,	Germantown, Pa.
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LAWRENCE, F. MORTIMER,	Philadelphia, Pa.
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LE SEUR, J. W.,	Batavia, N. Y.
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SCOTT, CYRUS W.,	Andover, Mass.
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STRONG, T. M.,	Boston, Mass.
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SIGRIST, PHILIP H.,	New Phil., Ohio.
SCHULZE, C. A.,	Columbus, Ohio.
STEAMS, GEO. R.,	Buffalo, N. Y.
STUMPF, D. B.,	Buffalo, N. Y.
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SMEDLEY, CHAS. D.,	Wayne, Pa.
SPENCER, GEO. F. A.,	Ware, Mass.
SWEET, CLARA M.,	Springfield, Mass.
SMILEY, NATHAN,	Philadelphia, Pa.
SHEARS, GEO. F.,	Chicago, Ill.
SHALLENBERGER, L. A.,	Reading, Pa.
SHANNON, SAMUEL F.,	Denver, Col.
SHREVE, JOS.,	Burlington, N. J.
SLOUGH, F. J.,	Allentown, Pa.
SIMMONS, C. W.,	Philadelphia, Pa.
SWARTZ, J. ROSS,	Harrisburg, Pa.
SHOEMAKER, D. WEBSTER,	Philadelphia, Pa.
STRANGHER, CLINTON C.,	Mattewan, N. J.
SHOWER, GEO. T.,	Baltimore, Md.
SOUTHWICK, GEO. R.,	Boston, Mass.
SCHENCK, H. D.,	Brooklyn, N. Y.
SMITH, JULIA HOLMES,	Chicago, Ill.
SMITH, WILSON A.,	Chicago, Ill.
SLAYLESS, H. S.,	Philadelphia, Pa.
SCHANTZ, MARGARET HASSLER,	Reading, Pa.
TALBOT, MRS. EMILY,	Boston, Mass.
TOWNSEND, IRVING,	New York City, N. Y.
THOMAS, C. M.,	Philadelphia, Pa.
TULLER, JOHN J.,	Philadelphia, Pa.
THOMPSON, L. W.,	Philadelphia, Pa.
TUTTLE, EDW. G.,	New York City, N. Y.
TOMLINSON, R. E.,	Philadelphia, Pa.
TALMADGE, SAM.,	Brooklyn, N. Y.
TOMLINSON, W. H.,	Germantown, Pa.
THOMPSON, J. J.,	Chicago, Ill.
TERRY, M. O.,	Utica, N. Y.
THOMASSON, J. C.,	Georgetown, Ky.
TREW, BARTUS,	Baltimore, Md.
THOMPSON, J. H.,	Pittsburg, Pa.
VILAS, C. H.,	Chicago, Ill.
VAN GUNTEN, F.,	Philadelphia, Pa.
VISCHER, CARL V.,	Philadelphia, Pa.
VAN BUREN, W. W.,	Philadelphia, Pa.
VAN ARTSDALEN, CHRIST.,	Ashburn, Pa.
VANDENBERG, WM. H.,	New York City, N. Y.

VAN LENNEP, W. B.,	Philadelphia, Pa.
VAN DERVEER, G. W.,	Mt. Holly, N. J.
VAN LENNEP, G. A.,	Philadelphia, Pa.
VALENTINE, RICHARD K.,	Brooklyn, N. Y.
VAN DEUSEN, E.H.,	Philadelphia, Pa.
WOOD, C. A.,	Binghamton, N. Y.
WINCHELL, W. B.,	Brooklyn, N. Y.
WITZELL, JOS. R.,	Philadelphia, Pa.
WAY, F. E.,	Wahoo, Neb.
WARD, WM. R.,	Newark, N. J.
WALTER, ROBERT,	Walter's Park, Pa.
WEAVER, H. S.,	Philadelphia, Pa.
WARNER, E. P.,	Canandaigua, N. Y.
WILKINS, DAVID W.,	Chicago, Ill.
WORCESTER, GEO. W.,	Newburyport, Mass.
WANSTALL, ALFRED,	Baltimore, Md.
WOLCOTT, EDW. H.,	Rochester, N. Y.
WILCOX, D. G.,	Buffalo, N. Y.
WALTON, C. E.,	Cincinnati, O.
WEAVER, CHANDLER,	Fox Chase, Pa.
WARE, H. B.,	Scranton, Pa.
WORCESTER, FRANK D.,	Keene, N. H.
WEBSTER, FRANK P.,	Norfolk, Va.
WOODRUFF, WM. L.,	Phœnix, Ariz.
WIGGERS, H. H.,	Cincinnati, Ohio.
WOODWARD, G. T.,	Camden, N. J.
WESTNEY, A. W.,	Atlantic City, N. J.
WARING, GUERNSEY P.,	Chicago, Ill.
WILCOX, S. F.,	New York City, N. Y.
WAIT, O. B.,	Philadelphia, Pa.
WILLIAMS, FRANKLIN E.,	Canfield, N. J.
WARD, J. M. A.,	Philadelphia, Pa.
WARNER, ALTON G.,	Brooklyn, N. Y.
WILLIAMS, CARL A.,	New London, Conn.
WILLIAMS, T. T.,	Canton, N. Y.
WILLIAMS, NANCY T.,	Augusta, Me.
WAYLAN, JULIA GOULD,	Philadelphia, Pa.
WILLARD, L. H.,	Pittsburg, Pa.
WOESSELHOEFT, CONRAD,	Boston, Mass.
YOUNGMAN, M. D.,	Atlantic City, N. J.
YODER, DANIEL,	Catasauqua, Pa.
ZIEGENFUSS, A. T.,	Philadelphia, Pa.

REGISTER OF MEMBERSHIP.

All members of the Institute who have maintained twenty-five consecutive years of membership shall be considered *Senior Members,* and be exempt from the payment of annual dues; and the names of such members shall be printed first in the list of members in capital letters.—*Article V., Section* 6 *of the By-Laws.*

There shall be published in each annual volume of the TRANSACTIONS: 1. A list of senior members arranged according to their years of membership. 2. An alphabetical list of members, including the names of senior members in CAPITALS. 3. A list of members classified by States. The list of deceased members shall be revised and republished annually. The complete list of members of the Institute from its organization and its Code of Ethics shall be published every five years.—*Article VIII., Section* 4, *of the By-Laws.*

Senior Members.

1846.

BERENS, JOSEPH, 1500 Green Street, Philadelphia, Pa.
RHEES, MORGAN J., Wheeling, W. Va.

1847.

CHASE, HIRAM L., 924 Massachusetts Avenue, Cambridgeport, Mass.
GUY, SAMUEL S., 2517 Parish Street, Philadelphia, Pa.
SHACKFORD, RUFUS, Portland, Me.

1848.

GUERNSEY, EGBERT, "The Madrid," 180 W. 59th Street, New York, N. Y.
MARCY, ERASTUS E., 396 Fifth Avenue, New York, N. Y.
PALMER, MILES W., 235 E. 18th Street, New York, N. Y.
RAYMOND, JONAS C., 626 Thirteenth Street, Oakland, Cal.

1849.

RODMAN, WILLIAM W., New Haven, Conn.

1850.

PAINE HORACE M., West Newton, Mass.

1852.

HAMMOND, MILTON, 310 N. Paca Street, Baltimore, Md.

1853.

ANGELL, HENRY C., 16 Beacon Street, Boston, Mass.
BISSEL, ARTHUR F., 157 Maiden Lane, New York, N. Y.
HELMUTH, WILLIAM TOD, 504 Fifth Avenue, New York, N. Y.
PAINE, JOSEPH P., Hotel Eliot, Roxbury, Mass.
SKILES, FRANCIS W., Suffolk, Va.
TALBOT, I. TISDALE, 685 Boylston Street, Boston, Mass.

1854.

BURGHER, JOHN C., 960 Penn Avenue, Pittsburg, Pa.
SISSON, EDWARD R., New Bedford, Mass.
WATSON, WILLIAM H., 270 Genesee Street, Utica, N. Y.

1855.

FINCKE, BERNHARDT, 122 Livingston Street, Brooklyn, N. Y.
WILDER LOUIS DEV., 55 W. 33d Street, New York, N. Y.

1857.

BALDWIN, JARED G., 8 E. 41st Street, New York, N. Y.
BECKWITH, SETH R., 135 Prospect Street, East Orange, N. J.
HATCH, PHILO L., 1901 San Pascual Street, Santa Barbara, Cal..

1858.

DETWILER, JOHN J., Easton, Pa.
KELLOGG EDWIN M., 115 E 37th Street, New York, N. Y.
VERDI TULLIO S., 11 Via delle Officine, Florence, Italy.
WEST, EDWIN, 155 W 12th Street, New York, N. Y.

1859.

JAMES, BUSHROD W., cor Green and 18th Streets, Philadelphia, Pa.
JEFFERDS, GEORGE P., Bangor, Me.
ORME, FRANCIS H., 70 N. Forsyth Street, Atlanta Ga.
PRATT, LESTER M., Homer, N. Y.
SHERMAN, JOHN H., 534 Broadway, Boston, Mass.
SPARHAWK, GEORGE E. E., Burlington, Vt.
WESSELHOEFT, CONRAD, 291 Boylston Street, Boston, Mass.
WESSELHOEFT, W. P., 176 Commonwealth Avenue, Boston, Mass.
WILSON, GROVE H., Meriden, Conn.

1860.

BRADFORD, F. STANDISH, 36 Maple Avenue, Morristown, N. J.
JOHNSON, ISAAC D., Kennett Square, Pa.
PAYNE, JAMES H., 344 Commonwealth Avenue, Boston, Mass.
SANDERS, JOHN C., 608 Prospect Street, Cleveland, O.
SMITH, HENRY M., 288 St. Nicholas Avenue, New York, N. Y.
SMITH, T. FRANKLIN, 264 Lenox Avenue, New York, N. Y.
WOOD, ORLANDO S., 521 N. Y. L. Bldg., Omaha, Neb.

1865.

BECKWITH DAVID H., 528 Prospect Street, Cleveland, O.
BOERICKE, FRANCIS E., 6386 Drexel Road, Philadelphia, Pa.
HAYNES, JOHN R., 262 N. Illinois Street, Indianapolis, Ind.
WILSON, T. P., Cleveland, O.

1866.

ALLEN, TIMOTHY FIELD, 3 E. 48th Street, New York, N. Y.
COGSWELL, CHAS. H., 65 Second Avenue, Cedar Rapids, Ia.
COMSTOCK, T. GRISWOLD, 3401 Washington Avenue, St. Louis, Mo.
COOPER, J. F., 105 Arch Street, Allegheny City, Pa.
DAKE, B. F., 815 Penn Avenue, Pittsburg, Pa.
DUNCAN, T. C., 100 State Street, Chicago, Ill.
GARSIDE, WILLIAM B., East Orange, N. J.
JAMES, JOHN E., 1521 Arch Street, Philadelphia, Pa.
ROBINSON, SAM'L A., West New Brighton, N. Y.
WETMORE, JOHN McE., 41 E. 29th Street, New York, N. Y.

1867.

ALBERTSON, JOS. A., 119 Powell Street, San Francisco, Cal.
BAYLIES BRADFORD L. B., 418 Putnam Avenue, Brooklyn, N. Y.
BELL, JAMES S., 2200 Congress Street, Chicago, Ill.
BROWN, EDWARD V., North Tarrytown, N. Y.
CURRIER, C. B. 921½ Geary Street, San Francisco, Cal.
CUSHING, ALVIN M., 175 State Street, Springfield, Mass.
ERMENTRAUT, JOHN P., 261 E. 4th Street, New York, N. Y.
FELLOWS, H. BARTON, 2969 Indiana Avenue, Chicago, Ill.
FISKE, WM. M. L., 484 Bedford Avenue, Brooklyn, N. Y.
FOSTER, WM. D., 420 W. 11th Street, Kansas City, Mo.
GUMPERT, BENJ. B., 840 Franklin Street, Philadelphia, Pa.
HILL, ROBERT L., 553 Albion Street, Oakland, Cal.
HOUGHTON, HENRY C., 7 W. 39th Street, New York, N. Y.
JONES, HENRY C., 1220 S. First Avenue, Mount Vernon, N. Y.
KEEP, J. LESTER, 460 Clinton Avenue, Brooklyn, N. Y.
McCLELLAND, J. H., cor 5th and Wilkins Avenue, Pittsburgh, Pa.
MASON STEPHEN R., Devall's Bluff, Ark.
MILLER, ROBERT E., Oxford, N. Y.
MORGAN, JOHN C., Millville, N. J.
NEGENDANK, AUGUSTUS, 1112 Washington Street, Wilmington, Del.
PAYNE, FREDERICK W., cor Exeter and Boylston Streets, Boston, Mass.
PEARSALL, SAMUEL J., Saratoga Springs, N. Y.
PHILLIPS, ALBERT W., Birmingham, Conn.
PRATT, LEONARD, 520 N. 2d Street, San José, Cal.
PRICE, ELIAS C., 1012 Madison Avenue, Baltimore, Md.
SANFORD, CHARLES E., Bridgeport, Conn.
SAWIN, ISAAC W., 582 Broadway, Providence, R. I.
SCALES, EDWARD P., Newton, Mass.
SHEARER, THOMAS, 345 N. Charles Street, Baltimore, Md.
THOMPSON, JOHN H., 36 E. 30th Street, New York, N. Y.

THOMPSON, VIRGIL, 56 W. 21st Street, New York, N. Y.
WESSELHOEFT, WALTER, 391 Harvard Street, Cambridge, Mass.
WILLARD, LEWIS H., 236 Western Avenue, Allegheny, Pa.

1868.

BANCROFT, WALTON, Keokuk, Ia.
BARROWS, GEORGE S., Marion, Kan.
BAXTER, HARRIS H., 275 Prospect Street, Cleveland, O.
BELL, JAMES B., 178 Commonwealth Avenue, Boston, Mass.
BIGGAR, HAMILTON F., 166 Euclid Avenue, Cleveland, O.
BUDLONG, JOHN C., Providence, R. I.
FINCH, EDWIN W., Center Avenue and Prospect Street, New Rochelle, N. Y.
HEDGES, SAMUEL P., 890 Evanston Avenue, Chicago, Ill.
MACFARLAN, MALCOLM, 1805 Chestnut Street, Philadelphia, Pa.

1869.

ARCULARIUS, PHILIP E., 104 W. 44th Street, New York, N. Y.
BISHOP, HERBERT M., 2627 Hoover Street, Los Angeles, Cal.
BLOSS, JABEZ P., 45 Second Street, Troy, N. Y.
BOOTHBY, ALONZO, 508 Commonwealth Avenue, Brookline, Mass.
BOWEN, GEORGE W., 232 E. Washington Street, Fort Wayne, Ind.
BOWMAN, BENJAMIN, Chambersburg, Pa.
BRADFORD, THOMAS L., 1862 Frankford Avenue, Philadelphia, Pa.
BRIRY, MILTON S., Bath, Me.
BUCK, JIRAH D., 124 W. 7th Street, Cincinnati, O.
COBURN, EDWARD S., 91 Fourth Street, Troy, N. Y.
COMPTON, J. AUGUSTINE, Indianapolis, Ind.
CROSS, HIRAM B., 21 Seavern's Avenue, Jamaica Plain, Boston, Mass.
DEDERKEY, FRANCIS F., 311 3d Street, Los Angeles, Cal.
DENNIS, LABAN, 30 Central Avenue, Newark, N. J.
DUDLEY, PEMBERTON, 1405 N. 16th Street, Philadelphia, Pa.
ELLIOTT, JOSEPH B., 493 Clinton Avenue, Brooklyn, N. Y.
FLANDERS, DAVID P., Belfast, Me.
GIFFORD, GILBERT L., Hamilton, N. Y.
GRAMM, GUSTAVE E., Ardmore, Pa.
GRAVES, STOCKBRIDGE P., Saco, Me.
HAYWARD, JOSEPH W., Taunton, Mass.
HOLT, EDWARD B., Lowell, Mass.
HUMPHREY, OTIS M., 392 Wistford Street, Lowell, Mass.
KINNE, THEODORE Y., Paterson, N. J.
KITTINGER, LEONARD, 724 King Street, Wilmington, Del.
MCGEORGE, WALLACE, 521 Broadway, Camden, N. J.
MIDDLETON, MELBOURNE F., 432 Market Street, Candem, N. J.
MORSE, MARTIN V. B., Manchester, N. H.
MOSSMAN, NATHAN A., 28 E. 47th Street, New York, N. Y.
SAGE, WM. H., New Haven, Conn.
SEIP, CHRISTIAN P., 636 Penn Avenue, Pittsburg, Pa.
SMITH, ST. CLAIR, 25 W. 50th Street, New York, N. Y.
SPALDING, HENRY E., "The Cluny," Boston, Mass.

STREETER, JOHN W., 2001 Prairie Avenue, Chicago, Ill.
WARE, WILLIAM G., Dedham, Mass.
WOODWARD, ALVIN M., 128 W. 13th Street, New York, N. Y.
WRIGHT, ANDREW R., 414 Elmwood Avenue, Buffalo, N. Y.

1870.

BEEBE, EUGENE W., 173 Wisconsin Street, Milwaukee, Wis.
BETTS, B. FRANK, 1609 Girard Avenue, Philadelphia, Pa.
BOYER, FRANCIS W., Pottsville, Pa.
CHENEY, BENJ. H., 45 Elm Street, New Haven, Conn.
GORDON, GEORGE A., Chillicothe, Mo.
GROSVENOR, LEMUEL C., 185 Lincoln Avenue, Chicago, Ill.
JOHNSON, ROBERT B., Ravenna, O.
KING, EDWARD H., 906 Fifteenth Street, Denver, Col.
KIPPAX, JOHN R., 3154 Indiana Avenue, Chicago, Ill.
PENNOYER, NELSON A., Kenosha, Wis.
SHELDON, JAY W., 402 Warren Street, Syracuse, N. Y.
VAN NORMAN, HIRACE B., 289 Pearl Street, Cleveland, O.
WOODBURY, WILLIAM H., 22 Central Music Hall, Chicago, Ill.
WOODWARD, ALFRED W., 130 Ashland Avenue, Chicago, Ill.

1871.

ALLEN, RICHARD C., 4419 Frankford Avenue, Philadelphia, Pa.
BALDWIN, AARON, 1205 Eleventh Street, N. W., Washington, D. C.
BINGAMAN, CHAS. F., 922 Penn Avenue, Pittsburg, Pa.
BOWIE, ALONZO P., 87 Main Street, Uniontown, Pa.
CHASE, MAURICE J., Galesburg, Ill.
CHURCH, CHARLES A., 128 Prospect Street, Passaic, N. J.
DRAKE, OLIN M., 70 Huntingdon Avenue, Boston, Mass.
EDMUNDSON, WALTER F., 375 Fifth Avenue, Pittsburg, Pa.
FAGER, CHARLES B., 120 Walnut Street, Harrisburg, Pa.
GREENLEAF, JOHN T., Owego, N. Y.
HIGBEE, ALBERT E., Masonic Temple, Minneapolis, Minn.
HIGBEE, CHESTER G., cor 9th and Robert Streets, St. Paul, Minn.
KNERR, CALVIN B., 1137 Spruce Street, Philadelphia, Pa.
LEWIS, HENRY M., "Florence," Fourth Avenue, New York, N. Y.
MARTIN, CONSTANTINE H., Allentown, Pa.
MERCER, ROBERT P., 223 W. 3d Street, Chester, Pa.
MIDDLETON, CALEB S., 1523 Girard Avenue, Philadelphia, Pa.
MITCHELL, JOHN J., Newburgh, N. Y.
SARTAIN, HARRIET J., 212 W. Logan Square, Philadelphia, Pa.
SHIVERS, BOWMAN H., Haddonfield, N. J.
SOUTHWICK, AUGUSTUS B., 107 W. Liberty Street, Rome, N. Y.
STREETS, JACOB G., Bridgeton, N. J.

1872.

ALLEN, HENRY C., 5142 Washington Avenue, Chicago, Ill.
BENDER, PROSPER, Exeter Chambers, Boston, Mass.
BERGHAUS, ALEXANDER, 138 E. 65th Street, New York, N. Y.

DAKE, WILLIAM C., 218 N. Vine Street, Nashville, Tenn.
DOUGHTY, FRANCIS E., 512 Madison Avenue, New York, N. Y.
HUTCHINS, HORACE S., Batavia, N. Y.
MORSE, LUCIUS D., P. O. Box 584, Atlanta, Ga.
OCKFORD, GEORGE M., 3 Oak Street, Ridgewood, N. J.
PETTENGILL, ELIZA F., 300 N. 10th Street, Philadelphia, Pa.
RICHARDSON, BRADBURY M., 151 Milton Street, Brooklyn, N. Y.
SCOTT, CHESTER W., Lawrence, Mass.
WALTER, ZIBA D., 107 W. 7th Street, Pueblo, Col.
WARREN, JOHN K., 68 Pleasant Street, Worcester, Mass.
WILLIAMSON, MATHEW S., 1522 Arch Street, Philadelphia, Pa.
WORCESTER, SAMUEL, 31 Winter Street, Portland, Me.

1873.

ALLEN, GEORGE D., Portland, Mich.
BREYFOGLE, WM. A., 100 Washington Street, Chicago, Ill.
BUFFUM, JOSEPH H., 34 Washington Street, Chicago, Ill.
BUTLER, WILLIAM M., 507 Clinton Avenue, Brooklyn, N. Y.
CANFIELD, CORRESTA T., 269 Lincoln Street, Chicago, Ill.
FISHER, A. LEROY, 315 Pigeon Street, Elkhardt, Ind.
FISHER, CHARLES E., 31 Washington Street, Chicago, Ill.
HITCHCOCK, DEXTER, Norwalk Conn.
JENNY, WILLIAM H., Broadway and 12th Street, Kansas City, Mo.
JONES, GAIUS J., 5 Rockwell Street, Cleveland, O.
LUKENS, MERRIKEN B., 161½ Edgewood Avenue, Atlanta, Ga.
MCDERMOTT, GEORGE C., Odd Fellows' Temple, Cincinnati, O.
MORRILL, EDWIN C., Norwalk, O.
PATCHEN, GEORGE H., 11 E. 59th Street, New York, N. Y.
RUNNELLS, ORANGE S., 600 N. Meriden Street, Iidianapolis, Ind.
SMITH, CHESTER, Portland, Mich.
VAN NORMAN, EDGAR V., 545 S. Broadway, Los Angeles, Cal.
WARREN, H. ANNA, 817 Bond Street, Dennison, Tex.
WATERS, MOSES H., 126 N. Seventh Street, Terre Haute, Ind.
WILSON, MATTHEW T., 1170 Market Street, San Francisco, Cal.

1874.

BAETHIG, HENRY, 350 Pennsylvania Street, Buffalo, N. Y.
BIEGLER, JOSEPH A., 58 S. Clinton Street, Rochester, N. Y.
BOND, MARY E., 122 Lexington Avenue, New York, N. Y.
BOYNTON, FRANK H., 36 W. 50th Street, New York, N. Y.
CAMPBELL, MERRITT B., Patton, Cal.
CORBIN, JOHN L., 245 Main Street, Athens, Pa.
CRANK, CHAS. D., 106 Auburn Avenue, Cincinnati, Ohio.
EVANS, ALBERT J., Fredonia, N. Y.
FORBES, GEORGE F., 42 William Street, Worcester, Mass.
GREGORY, EDWARD P., Lafayette, near State Street, Bridgeport, Conn.
GUERNSEY, WILLIAM N., 27 W. 52d Street, New York, N. Y.
HALL, ROBERT, 117 Broad Street, Providence, R. I.
HERRON, CHARLES D., 3505 Butler Street, Pittsburg, Pa.

HUNT, DWIGHT B., 159 Madison Avenue, New York, N. Y.
JONES, CHARLES E., Albany, N. Y.
KEEP, CAROLINE J. YEOMANS, 308 W. 36th Street, New York, N. Y.
McDONALD, WILLIAM O., 117 W. 44th Street, New York, N. Y.
McGAVOCK, CLARA PLYMPTON, P. O. Box 346, Nashville, Tenn.
PRATT, EDWIN H., 100 State Street, Chicago, Ill.
TALCOTT, SELDEN H., Middletown, N. Y.
WAIT, PHŒBE J. B., Ninth Avenue, cor. 34th Street, New York, N. Y.
WALTON, CHARLES E., N. W. cor. Seventh and John Streets, Cincinnati, Ohio.

Alphabetic List of Members.

The figures placed before the names indicate the date of membership. Names in SMALL CAPITALS are "Senior Members."

Members are requested to inform the General Secretary of any change in their addresses. Those residing in a city are requested to furnish him with their *street* addresses.

Article V., Section 4, of the By-Laws.

Members neglecting to pay their dues for three years, after proper notification from the Treasurer, shall have their names dropped from the roll of membership.

1894. Abbott, Charles Sewell, 130 Huntington Avenue, Boston, Mass.
1896. Ackerman, James F., 905 Grand Avenue, Asbury Park, N. J.
1896. Adams, Charles, Central Music Hall, Chicago, Ill.
1899. Adams, Charles F., 229 Union Street, Hackensack, N. J.
1895. Adams, G. Francis, Gowanda, N. Y.
1887. Adams, George Smith, Westboro, Mass.
1895. Adams, H. Alden, 21 W. Ohio Street, Indianapolis, Ind.
1876. Adams, Reuben A., 46 North Fitzhugh Street, Rochester, N. Y.
1899. Adams, Theo. Lewis, 1831 Chestnut Street, Philadelphia, Pa.
1892. Aiken, John Gayle, 1102 St. Charles Avenue, New Orleans, La.
1897. Albertson, Charles S., 358 Richmond Avenue, Buffalo, N. Y.
1867. ALBERTSON, JOS. A., 119 Powell Street, San Francisco, Cal.
1888. Aldrich, Henry C., 313 Medical Block, Minneapolis, Minn.
1894. Alexander, Ernest L., 1204 N. 24th Street, Omaha, Neb.
1881. Allen, Albion H., New London, Conn.
1873. ALLEN, GEORGE D., Portland, Mich.
1899. Allen, Herbert C., 310 Clermont Avenue, Brooklyn, N. Y.
1872. ALLEN, HENRY C., 5142 Washington Avenue, Chicago, Ill.
1897. Allen, John V., 4637 Frankford Avenue, Philadelphia, Pa.
1899. Allen, J. Wilford, 110 W. 12th Street, New York, N. Y.
1887. Allen, Lamson, 20 Elm Street, Worcester, Mass.
1891. Allen, Paul, 3 E. 48th Street, New York, N. Y.
1871. ALLEN, RICHARD C., 4419 Frankford Avenue, Philadelphia, Pa.
1892. Allen, Sara J., Charlotte, Mich.
1866. ALLEN, TIMOTHY FIELD, 3 E. 48th Street, New York, N. Y.
1895. Allison, George Freeman, Warren Avenue, East Providence, R. I.
1894. Ames, Charles S., Ada, Ohio.
1896. Anderson, Jeremiah N., 5 College Street, Toronto, Ont.

1893. Anderson, John Wylie, 16 and 17 Steele Block, Denver, Col.
1890. Andrews, Sarah W., 319 Bowen Avenue, Chicago, Ill.
1892. Andrews, William R., Rockville, Md.
1853. ANGELL, HENRY C., 16 Beacon Street, Boston, Mass.
1899. Ap Lynne, Guy E., 1214 Main Street, Kansas City, Mo.
1891. Applegate, Grover T., 25 Livingstone Avenue, New Brunswick, N. J.
1899. Appleton, Lucy, 160 W. Brookline Street, Boston, Mass.
1869. ARCULARIUS, PHILIP E., 104 W. 44th Street, New York, N. Y.
1897. Arp, August H., Moline, Ill.
1891. Arschagouni, John, 733 Lexington Avenue, New York, N. Y.
1899. Arthur, Alexander Beck, 2039 Spring Garden Street, Philadelphia, Pa.
1897. Arthur, Daniel H., Gowanda, N. Y.
1891. Artz, Jerome L., 3000 Westfield Avenue, Camden, N. J.
1899. Ashcraft, Leon Thomas, 1833 Chestnut Street, Philadelphia, Pa.
1898. Ashley, Sherman, Fairmont, Neb.
1899. Aurand, Samuel Herbert, 720 Washington Boulevard, Chicago, Ill.
1894. Austin, Edson C., Elkhorn, Wis.
1894. Avery, Aaron B., Pontiac, Mich.
1897. Ayler, Amos E., Greencastle, Ind.
1894. Ayres, Emma F. Macomber, 69 Caroline Street, Saratoga, N. Y.
1896. Ayres, James N., 534 S. Burdick Street, Kalamazoo, Mich.

1891. Babbitt, Zeno B., 810 11th Street, N. W., Washington, D. C.
1897. Babcock, Archibald H., Randolph, N. Y.
1885. Babcock, Daniel A., Fall River Mass.
1892. Babcock, Francis Lester, 15 Walnut Street, Dedham, Mass.
1896. Babington, John, Corunna, Mich.
1874. Baethig, Henry, 350 Pennsylvania Street, Buffalo, N. Y.
1892. Baier, George Frederick, Norwood, Pa.
1887. Baily, Alfred W., 1809 Pacific Avenue, Atlantic City, N. J.
1888. Bailey, Benjamin F., Lincoln, Neb.
1889. Bailey, E. Stillman, 3034 Michigan Avenue, Chicago, Ill.
1893. Bailey, William M., 25 Miami Avenue, Detroit, Mich.
1894. Baker, Jennie Van Holland, 512 Bedford Avenue, Brooklyn, N. Y.
1896. Baldinger, Arthur F., 670 Euclid Avenue, Cleveland, O.
1871. BALDWIN, AARON, 1205 11th Street, N. W., Washington, D. C.
1892. Baldwin, Henry D., Elyria, O.
1857. BALDWIN, JARED G., 8 E. 41st Street, New York, N. Y.
1899. Ball, Joseph Harris, Ann Arbor, Mich.
1892. Ballard, Asa N., 2020 Third Avenue, Birmingham, Ala.
1883. Ballard, Laura A. S., 610 Hyde Street, San Francisco, Cal.
1899. Balliet, Lorenzo Dow, 1001 Atlantic Avenue, Atlantic City, N. J.
1892. Balyeat, Edmond A., 122 W. Main Street, Kalamazoo, Mich.
1868. BANCROFT, WALTON, Keokuk, Iowa.
1888. Barber, Oscar M., Mystic Bridge, Conn.
1898. Barbee, Benj. Irving, 60 E. Broad Street, Columbus, O.
1881. Barker, Clarence F., Ellis Ave. and Oakwood Boul, Chicago, Ill.
1891. Barnard, Charles A., Centerdale, R. I.
1891. Barnard, James S., 2112 N. Charles Street, Baltimore, Md.
1897. Barnes, Frank H., Summer Street, Stamford, Conn.

1894. Barnhill, Tobias G., 208 S. Main Street, Findlay, O.
1892. Barrett, James Willis, Osage, Iowa.
1868. BARROWS, GEORGE S., Marion, Kan.
1892. Barstow, Benjamin Parker, Kingston, Mass.
1896. Bartholomew, Daniel D., Holly, Mich.
1886. Bartlett, Clarence, 1506 Arch Street, Philadelphia, Pa.
1892. Barton, J. Marcus, Worcester, Mass.
1896. Barton, William R., 216 Washington Street, Ypsilanti, Mich.
1889. Bascom, Henry M., 727 Columbus Street, Ottawa, Ill.
1880. Bassett, John S., 11 W. 31st Street, New York, N. Y.
1892. Batchelder, Frederick P., 232 Massachusetts Avenue, Boston, Mass.
1892. Batchelder, Henry F., 18 Locust Street, Danvers, Mass.
1868. BAXTER, HARRIS H., 275 Prospect Street, Cleveland, Ohio.
1891. Bayley, Weston D., 1434 Poplar Street, Philadelphia, Pa.
1867. BAYLIES, BRADFORD L. B., 418 Putnam Avenue, Brooklyn, N. Y.
1896. Beaman, Charles P., Ithaca, N. Y.
1889. Becker, Frederick, Clermont, Iowa.
1888. Becker, Frederick J., Postville, Iowa.
1865. BECKWITH, DAVID H., 528 Prospect Street, Cleveland, O.
1857. BECKWITH, SETH R., 135 Prospect Street, East Orange, N. J.
1877. Beebe, Clarence E., 63 W. 37th Street, New York, N. Y.
1870. BEEBE, EUGENE W., 173 Wisconsin Street, Milwaukee, Wis.
1876. Beebe, Henry E., Sidney, Ohio.
1899. Beeler, Margaret Hoper, Homœopathic Hospital, Denver, Col.
1892. Belden, Charles K., 179 Gates Avenue, Brooklyn, N. Y.
1868. BELL, JAMES B., 178 Commonwealth Avenue, Boston, Mass.
1867. BELL, JAMES S., 2200 Congress Street, Chicago, Ill.
1877. Bellows, Howard P., cor. Boylston and Berkeley Sts., Boston, Mass.
1899. Belville, Jacob Edgar, 5915 Green Street, Philadelphia, Pa.
1872. BENDER, PROSPER, Exeter Chambers, Boston, Mass.
1881. Bennett, James A., 4 Irving Place, New York, N. Y.
1897. Bennett, John Hillman, 142 High Street, Pawtucket, R. I.
1899. Bennett, Ruth Parker, Lincoln St. and Pacific Ave., Santa Cruz, Cal.
1889. Bennett, William Henry, Fitchburg, Mass.
1888. Bennitt, Francis M., 120 Sumner Avenue, Springfield, Mass.
1899. Benthack, Peter L., Platte Center, Neb.
1846. BERENS, JOSEPH, 1500 Green Street, Philadelphia, Pa.
1899. Bergeron, Emma G., 326 W. 34th Street, New York, N. Y.
1872. BERGHAUS, ALEX., 138 E. 65th Street, New York, N. Y.
1892. Bergman, Nils, Dwight, Ill.
1897. Besemer, Howard Burhause, Osborn Block, Ithaca, N. Y.
1893. Besemer, Martin, 6 W. State Street, Ithaca, N. Y.
1890. Best, George B., Englewood, N. Y.
1870. BETTS, B. FRANK, 1609 Girard Avenue, Philadelphia, Pa.
1874. BIEGLER, JOSEPH A., 58 S. Clinton Street, Rochester, N. Y.
1887. Bier, Peter A., 4200 Butler Street, Pittsburg, Pa.
1868. BIGGAR, HAMILTON F., 166 Euclid Avenue, Cleveland, O.
1876. Bigler, William H., 118 N. Seventeenth Street, Philadelphia, Pa.
1898. Billings, Robt. Anderson, Ord, Neb.
1899. Biltner, Albert J., 1036 Hamilton Street, Allentown, Pa.
1871. BINGAMAN, CHAS. F., 922 Penn Avenue, Pittsburg, Pa.

1892. Bingham, Russell, 62 Day Street, Fitchburg, Mass.
1895. Birch, Charles E., White Plains, N. Y.
1881. Birdsall, Stephen T., Glens Falls, N. Y.
1895. Birdsall, Thomas P., Paterson, N. Y.
1897. Bishop, Frank A., 509 Broadway, Hannibal, Mo.
1869. BISHOP, HERBERT M., 2627 Hoover Street, Los Angeles, Cal.
1899. Bishop, Dudson D., 143 Euclid Avenue, Cleveland, O.
1891. Bishop, William H., 46 W. 48th Street, New York, N. Y.
1853. BISSEL, ARTHUR F., 157 Maiden Lane, New York, N. Y.
1893. Bissell, Elmer Jefferson, 75 S. Fitzhugh Street, Rochester, N. Y.
1891. Bittinger, Frank D., 23 W. 4th Street, Dayton, O.
1893. Blackman, George Edwin, Vernon, Tex.
1891. Blackman, Orville B., Dixon, Ill.
1893. Blackwood, Alexander L., 9151 Commercial Avenue, Chicago, Ill.
1894. Blair, William Wightmann, 406 Penn Avenue, Pittsburg, Pa.
1896. Blanke, Theodore F., 3918 Shenandoah Avenue, St. Louis, Mo.
1893. Bliem, Milton, J., 425 Navarro Street, San Antonio, Tex.
1887. Blodgett, Stephen H., South Lincoln, Mass.
1869. BLOSS, JABEZ P., 45 Second Street, Troy, N. Y.
1894. Blouke, Milton Baker, 1222 W. Washington Street, Chicago, Ill.
1894. Blunt, Arthur W., 323 Fifth Avenue, Clinton, Ia.
1893. Boardman, Edgar W., 115 Central Avenue, Parsons, Kan.
1897. Bodenbender, Edward G., 660 Walden Avenue, Buffalo, N. Y.
1895. Boericke, Felix A., 1011 Arch Street, Philadelphia, Pa.
1865. BOERICKE, FRANCIS E., 6386 Drexel Road, Philadelphia, Pa.
1883. Boericke, William, 1812 Washington Street, San Francisco, Cal.
1892. Boileau, John D., 804 Lehigh Avenue, Philadelphia, Pa.
1897. Bond, Aaron John, 1 Center Street, Adams, Mass.
1874. Bond, Mary E., 122 Lexington Avenue, New York, N. Y.
1899. Bonnell, Charles Lewis, 3 Hanson Place, Brooklyn, N. Y.
1891. Boocock, Robert, 965 Flatbush Avenue, Brooklyn, N. Y.
1897. Boone, George H., 307 Washington Street, Pottsville, Pa.
1869. BOOTHBY, ALONZO, 508 Commonwealth Avenue, Brookline, Mass.
1890. Bothfeld, James F., 455 Centre Street, Newton, Mass.
1898. Boutin, Francis J., Independence, Md.
1896. Bowen, Emma Klein, 156 St. Aubin Avenue, Detroit, Mich.
1869. BOWEN, GEORGE W., 232 E. Washington Street, Fort Wayne, Ind.
1871. BOWIE, ALONZO P., 87 Main Street, Uniontown, Pa.
1869. BOWMAN, BENJAMIN, Chambersburg, Pa.
1889. Bowman, Frederick C., 203 Second Avenue, W. Duluth, Minn.
1896. Bowman, Isaac N., Upper Sandusky, O.
1870. BOYER, FRANCIS W., Pottsville, Pa.
1895. Boyd, Herbert D., 370 Columbus Avenue, Boston, Mass.
1871. BOYD, JOHN S., New Brighton, Pa.
1874. BOYNTON, FRANK H., 36 W. 50th Street, New York, N. Y.
1894. Brace, Charles C., 1427 Stout Street, Denver Col.
1860. BRADFORD, F. STANDISH, 36 Maple Avenue, Morristown, N. J.
1869. BRADFORD, THOMAS L., 1862 Frankford Avenue, Philadelphia, Pa.
1898. Bradford, Eli, 636 18th Street, Rock Island, Ill.
1897. Bragdon, Merritt Caldwell, 1709 Chicago Avenue, Evanston, Ill.
1891. Branin, John W., Mount Holly, N. J.

1895. Branson, J. H., 1231 New Jersey Avenue, N. W., Washington, D. C.
1891. Branson, Mary, 1719 Arch Street, Philadelphia, Pa.
1877. Branstrup, William T., 222 W. 6th Street, Topeka, Kan.
1895. Bray, Amanda C., 4 Wellington Street, Worcester, Mass.
1889. Bray, Nicholas, 1140 Main Street, Dubuque, Ia.
1891. Brewster, Cora B., 1027 Madison Avenue, Baltimore, Md.
1891. Brewster, Flora A., 1221 Madison Avenue, Baltimore, Md.
1896. Brewster, Frederick D., 309 Jefferson Avenue, Scranton, Pa.
1873. BREYFOGLE, WM. L., 100 Washington Street, Chicago, Ill.
1890. Brickley, Laura C., Chase and Hamilton Avenues, Cincinnati, O.
1893. Briggs, Joseph Emmons, 204 Huntington Avenue, Boston, Mass.
1889. Briggs, Warren S., St. Paul, Minn.
1893. Brigham, Homer C., 27 Morris Avenue, Grand Rapids, Mich.
1869. BRIRY, MILTON S., Bath Me.
1892. Brooks, Caroline Frances, Independence, Ia.
1893. Brooks, William F., Florence, Col.
1899. Brosius, Mary Alice, 1101 K. Street, N.W., Washington, D. C.
1899. Brown, Alice Barlow, 181 Dearborn Avenue, Chicago, Ill.
1890. Brown, Dagmar M., Waupaca, Wis.
1899. Brown, Daniel E., 95 Main Street, Brockton, Mass.
1867. BROWN, EDWARD V., North Tarrytown, N. W.
1898. Brown, Ernest C., corner 2d and State Streets, Madrid, Iowa.
1876. Brown, Asa W., 27 Burnett Street, Providence, R. I.
1891. Brown, Christian H.
1893. Brown, Eugene A., 121 E. Washington Avenue, Madison, Wis.
1892. Brown, Lucy Henrietta Alice, 274 Broad Street, Providence, R. I.
1891. Brown, M. Belle, 135 W. 34th Street, New York, N. Y.
1896. Brown, Plumb, Jr., 503 State Street, Springfield, Mass.
1898. Brown, Samuel G. A., 60 East Maine Street, Shippensburg, Pa.
1898. Brown, Stanley R., 287 N. Broad Street, Elizabeth, N. J.
1892. Brown, William K., 1311 N. Broad Street, Philadelphia, Pa.
1897. Brownell, De Ette, Westborough Insane Hospital, Westborough, Mass
1899. Brownell, John Robert, Main Street, Warsaw, N. Y.
1899. Bruce, Augustus H., Wolcott, N. Y.
1893. Bruce, Ida F., Irvington, N. J.
1888. Bruce, Orpha D. B., 1302 Florida Avenue, Tampa, Fla.
1899. Brunner, Edgar P., 1108 Spring Garden Street, Philadelphia, Pa.
1894. Bryan, Joseph Harter, 221 Asbury Avenue, Asbury Park, N. J.
1895. Bryan, Joseph Temple, 120 W. Chestnut Street, Louisville, Ky.
1895. Bryant, Edgar Reeve, 317 Powell Street, San Francisco, Cal.
1894. Bryant, William Cullen, 64 Greene Avenue, Brooklyn, N. Y.
1869. BUCK, JIRAH D., 124 W. 7th Street, Cincinnati, O.
1868. BUDLONG, JOHN C., Providence, R. I.
1898. Budlong, Martin Salisbury, 604 Westminster Street, Providence, R. I.
1873. BUFFUM, JOSEPH H., 34 Washington Street, Chicago, Ill.
1892. Bull, William H. H., Montclair, N. J.
1887. Bullard, J. Arthur, Wilkesbarre, Pa.
1895. Burck, Lewis A., 17 E. 2d Street, Frederick, Md.
1898. Burg, Wm. F., 404 California Building, Denver, Col.
1854. BURGHER, JOHN C., 960 Penn Avenue, Pittsburg, Pa.
1891. Burling, J., Summit, N. J.

1899. Burlingame, Frank W., McKeesport, Pa.
1889. Burnham, Norman G., Denver, Col.
1889. Burns, Judson D., Grundy Centre, Ia.
1893. Burr, William Alton, 2010 Welton Street, Denver, Col.
1886. Burritt, Alice, 1129 Fourteenth Street, N.W., Washington, D. C.
1899. Burritt, Martha Clark, 313 5th Street, S. E., Washington, D. C.
1883. Burroughs, Amelia, 480 Boylston Street, Boston, Mass.
1899. Busenbark Lucy M., The Iliad, Des Moines, Ia.
1875. Butler, Clarence W., 35 Fullerton Avenue, S. Montclair, N. J.
1873. BUTLER, WILLIAM M., 507 Clinton Avenue, Brooklyn, N. Y.
1898. Button, Lucius Lucine, 45 So. Clinton Street, Rochester, N. Y.

1892. Cahill, Eliza B., N. E. Conservatory of Music, Boston, Mass.
1895. Calderwood, Samuel Herbert, 2512 Washington Street, Boston, Mass.
1897. Calhoun, John Charles, 75 Arch Street, Allegheny, Pa.
1899. Cameron, Ida B., 2653 Howard Street, San Francisco, Cal.
1899. Campbell, Duncan, Woodbury, N. J.
1894. Campbell, Eugene, 315 S. Broadway, Los Angeles, Cal.
1876. Campbell, James A., 1729 Washington Avenue, St. Louis, Mo.
1874. Campbell, Merritt B., Patton, Cal.
1895. Campbell, Robert Alexander, Ontario, Cal.
1898. Campbell, Samuel M., 1326 So. 32d Street, Omaha, Neb.
1886. Candee, Jas. Willis, 402 Warren Street, Syracuse, N. Y.
1873. CANFIELD, CORRESTA T., 269 Lincoln Avenue, Chicago, Ill.
1894. Canney, Frederick G., 606 Sutter Street, San Francisco, Cal.
1898. Cannon, J. M. Willson, Kidder, Mo.
1896. Carleton, Bukk G., 75 W. 50th Street, New York, N. Y.
1889. Carlson, Oscar W., 425 Milwaukee Street, Milwaukee, Wis.
1883. Carmichael, John H., 41 Maple Street, Springfield, Mass.
1891. Carmichael, Thos. H., 7127 Germantown Ave., Germantown, Phila, Pa.
1896. Caron, George G., 30 Henry Street, Detroit, Mich.
1892. Carpenter, Willard B., 657 N. High Street, Columbus, O.
1891. Carr, Ada, 125 Vreeland Avenue, Paterson, N. J.
1898. Carr, E. Arthur, 1205 O Street, Lincoln, Neb.
1899. Carr,Henry H., Mullica Hill, N. J.
1897. Carter, Rolla Bert, 106 Adolph Avenue, Akron, O.
1899. Carter, Woodward D., 1533 So. 15th Street, Philadelphia, Pa.
1882. Carvill, Alphonso H., Somerville, Mass.
1881. Case, Erastus E., 109 Ann Street, Hartford, Conn.
1898. Cate, Wm. Andrew, Union Blk., Nelson, Neb.
1895. Chace, Nathaniel Ray, 89 Touro Street, Newport, R. I.
1897. Chadwick, John Gartside, 262 Delaware Avenue, Buffalo, N. Y.
1899. Chaffee, John D., Garden Grove, Cal.
1891. Chalmers, Robert, 47 Pleasant Street, Woburn, Mass.
1889. Chamberlin, Myron H., Monrovia, Cal.
1895. Champlin, Henry William, 37 West Main Street, Bloomsburg, Pa.
1899. Champlin, Iohn Carder, Hygeia Hotel, Block Island, R. I.
1891. Chandlee, Henry, 704 W. North Avenue, Baltimore, Md.
1898. Chandler, Chas. De Long, Hartington, Neb.
1891. Chapin, Edward, 21 Schermerhorn Street, Brooklyn, N. Y.
1890. Chapman, Edward E. K., Defiance, O.

1875. Chapman, Millie J., 804 Penn Avenue, Pittsburg, Pa.
1876. Chase, Herbert A., 950 Massachusetts Avenue, Cambridgeport, Mass.
1847. CHASE, HIRAM L., 924 Massachusetts Avenue, Cambridgeport, Mass.
1895. Chase, Joseph Jr., East Weymouth, Mass.
1899. Chase, J. Oscar, 214 E. 53rd Street, New York, N. Y.
1871. CHASE, MAURICE J., Galesburg, Ill.
1894. Chase, Theodore Livingstone, 1687 N. 54th Street, Philadelphia, Pa.
1870. CHENEY, BENJ. H., 45 Elm Street, New Haven, Conn.
1895. Childs, Helen S., 454 Centre Street, Jamaica Plain, Boston, Mass.
1890. Chislett, Howard Roy, 3030 Michigan Avenue, Chicago, Ill.
1891. Choate, Rufus, 3267 O Street, N.W., Washington, D.C.
1898. Christine, Gordon Maxwell, 2043 N. 12th Street, Philadelphia, Pa.
1891. Church, Adaline B., Winchester, Mass.
1871. CHURCH, CHARLES A., 128 Prospect Street, Passaic, N. J.
1896. Church, Eloise I., 41 W. 94th Street, New York, N. Y.
1897. Church, Herbert A., 601 Warren Street, Syracuse, N. Y.
1882. Church, Thomas T., 70 E. Main Street, Salem, O.
1881. Clapp, James Wilkinson, c. St. Paul and Francis Sts., Brookline, Mass.
1896. Clapp, Katherine B., 6222 Woodlawn Avenue, Chicago, Ill.
1886. Clark, Byron G., 162 W. 122d Street, New York, N. Y.
1891. Clark, Charles W., 21 Princess Street, Winnipeg, Manitoba.
1891. Clark, Edwin J., Longmont, Col.
1891. Clark, Ernest A., Ann Arbor, Mich.
1896. Clark, George E., 203 S. Main Street, Stillwater, Minn.
1897. Clark, George F., Aylmer, Elgin Co., Ont.
1887. Clark, Lyman A., Cambridge, N. Y.
1893. Clark, Whitman E., Three Rivers, Mich.
1894. Clarke, Harvey L., Fairbury, Neb.
1888. Clarke, Henry L., 3 Punchard Avenue, Andover, Mass.
1895. Clarke, Mortimer Hall, 221 Auburn Street, Auburndale, Mass.
1887. Claypool, Albert, Toledo, O.
1899. Clemens, Frank L., 233 W. Chestnut Street, Canton, Ill.
1899. Clingan, Thomas O., 22 Main Street, Niles, O.
1893. Clokey, Allison A., 2d and Chestnut Streets, Louisville, Ky.
1888. Closson, James H., 53 W. Chelten Avenue, Germantown, Phila, Pa.
1890. Cobb, Joseph P., 254 E. 47th Street, Chicago, Ill.
1898. Colb, Sheridan G., 1852 Marshall Avenue, St. Paul, Minn.
1869. COBURN, EDWARD S., 91 Fourth Street, Troy, N. Y.
1893. Cocke, James R., 24 Marlborough Street, Boston, Mass.
1895. Coffin, John Lambert, 229 Berkeley Street, Boston, Mass.
1866. COGSWELL, CHAS. H., 65 Second Avenue, Cedar Rapids, Ia.
1886. Colby, Edwin A., Gardner, Mass.
1890. Colby, Edward P., 845 Boylston Street, Boston, Mass.
1890. Cole, Beder A., West Lima, Wis.
1883. Cole, Directus De Forest, Batavia, N. Y.
1883. Cole, Ezra Z., 1516 Mount Royal Avenue, Baltimore, Md.
1899. Cole, Harlan Page, 135 Sigourney Street, Hartford, Conn.
1896. Cole, Sarah A., Lincoln, Kan.
1895. Coleman, Ellenwood B., Centre Street, Nantucket, Mass.
1892. Colgrove, Charles H. Willimantic, Conn.
1898. Collester, Joseph Chas., 509 Main Street, Spencer, Ia.

1896. Collins, Newton M., 43 East Avenue, Rochester, N. Y.
1899. Colt, Emily S., 2327 Tracy Avenue, Kansas City, Mo.
1895. Colvin, Harvey E., 150 Cherry Street, Burlington, Vt.
1894. Colwell, Charles Estabrook, 23 S. Lake Street, Aurora, Ill.
1899. Compton, George W., Ophir, Col.
1869. COMPTON, J. AUGUSTINE, Indianapolis, Ind.
1866. COMSTOCK, T. GRISWOLD, 3401 Washington Avenue, St. Louis, Mo.
1899. Comstock, William C., 407 N. Charles Street, Baltimore, Md.
1876. Conant, Thomas, Gloucester, Mass.
1894. Conklin, Frances C. Donovan, New Brighton, N. Y.
1895. Connett, George Cramer, 45 Washington Street, Morristown, N. J.
1898. Connell, Ralph W., 1707 Dodge Street, Omaha, Neb.
1881. Cook, Joseph T., 636 Delaware Avenue, Buffalo, N. Y.
1892. Cooke, Mary A., 2113 N. 18th Street, Philadelphia, Pa.
1886. Cooke, Persifor Marsden, 1290 Race Street, Denver, Col.
1897. Cooley, Justus H., 122 Westervelt Avenue, Plainfield, N. J.
1891. Coolidge, John W., 334 Washington Avenue, Scranton, Pa.
1893. Coombs, James T., Fulton, Mo.
1895. Coon, George S., 617 Fourth Street, Louisville, Ky.
1898. Coons, Henry Newton, 96 East Pearl Street, Lebanon, Ind.
1866. COOPER, J. F., 105 Arch Street, Allegheny City, Pa.
1894. Cooper, William Henry, P. O. Box 140, Oakmont, Pa.
1892. Copeland, Roy S., 46 Catherine Street, Ann Arbor, Mich.
1874. Corbin, John L., 245 Main Street, Athens, Pa.
1888. Cornell, Albert B., Kalamazoo, Mich.
1894. Cort, Lottie A., 89 Division Avenue, Brooklyn, N. Y.
1899. Corwin, Elizabeth, 104 Main Street, Binghamton, N. Y.
1892. Costain, Thomas E., Pratt Sanitarium, Chicago, Ill.
1899. Cotton, Alonzo A., Vermillion, S. D.
1877, Couch, Asa S., Fredonia, N. Y.
1876. Couch, Louis B., Nyack, N. Y.
1894. Couden, William Chase, 29 Eighteenth Avenue, Denver, Col.
1890. Coutant, George F., La Salle, Ill.
1892. Cowell, Joseph H., 301 South Warren Avenue, Saginaw, Mich.
1875. Cowperthwaite, Allen C., 717 Marshall Field Bldg., Chicago, Ill.
1897. Cowperthwaite, Joseph Erving, 9, 10, 11 Owsley Block, Butte, Mont.
1894. Cox, Edward Gilbert, 109 State Street, Albany, N. Y.
1894. Cox, Frederick Joseph, 109 State Street, Albany, N. Y.
1895. Cox, George A., 80 S. Swan Street, Albany, N. Y.
1898. Cramer, Wm. E., 1103 Main Street, Kansas City, Mo.
1878. Cranch, Edward, Erie, Pa.
1874. Crank, Chas. D., 106 Auburn Avenue, Cincinnati, O.
1883. Crawford, Alex. K., Filbert and 12th Streets, Oakland, Cal.
1893. Crawford, Joanna D., 3016 Bloomington Avenue, Minneapolis, Minn.
1892. Crawford, Katherine M., Duffield, Pa.
1898. Crawford, John Martin, Auburn Avenue, Cincinnati, O.
1896. Crisand, Carl, 2 Charlotte Street, Worcester, Mass.
1893. Crismore, James M., Helena, O.
1895. Crocker, Harry Clinton, Common Street, Providence R. I.
1899. Cromwell, Lydia Herts, Galen Hall Sanitarium, Atlantic City, N. J.
1885. Crosby, George W., 716 Atlantic Avenue, Atlantic City, N. J.

— 1869. CROSS, HIRAM B., 21 Seavern's Avenue, Jamaica Plain, Boston, Mass.
— 1871. CROWTHER, ISAAC, 143 E. 7th Street, Chester, Pa.
— 1896. Crum, Josephus D., 314 N. Ball Street, Owasso, Mich.
1894. Crumrine, Charles G., 1444-1445 Majestic Building, Detroit, Mich.
— 1895. Crump, Walter Gray, 693 Madison Avenue, New York, N. Y.
— 1893. Crutcher, Howard, Columbus Memorial Building, Chicago, Ill.
— 1886. Culver, Jane Kendrick, 13 Arlington Street, Boston, Mass.
— 1881. Cummings, M. Louisa, 178a Tremont Street, Boston, Mass.
1892. Curran, Edwin J., Oil City, Pa.
— 1867. CURRIER, CHRISTOPHER B., 921½ Geary Street, San Francisco, Cal.
— 1897. Custis, Harry N., 314 Second Street, Marietta, O.
1894. Cushman, Mary Floyd, Main Street, Castina, Me.
— 1867. CUSHING, ALVIN M., 175 State Street, Springfield, Mass.
— 1889. Curtis, George W. N., 112 E. Capitol Street, Washington, D. C.
1879. Custis, J. B. Gregg, 912 15th Street, N. W., Washington, D. C.
1892. Custis, Marvin A., 634 E. Capitol Street, Washington, D. C.
1898. Cutler, Charles Edward, Magnolia, Iowa.

— 2887. Dake, Adeline B. (Crowley), 117 E. Jefferson Street, Syracuse, N. Y.
— 1866. DAKE BENJ. F., 815 Penn Avenue, Pittsburg, Pa.
— 1881. Dake, Charles, Hot Springs, Ark.
— 1887. Dake, Frank B., Hot Springs, Ark.
— 1877. Dake, Walter M., 218 N. Vine Street, Nashville, Tenn.
— 1872. DAKE, WILLIAM C., 218 N. Vine Street, Nashville, Tenn.
— 1895. Damon, Newcomb Lincoln, 405 Washington Street, Dorchester, Mass.
— 1879. Danforth, Loomis L., 59 W. 52nd Street, New York, N. Y.
1892. Darby, Edward A., Northampton, Mass.
1892. Darby, Margaret G., Northampton, Mass.
— 1899. Davis, Charles A., 1010 15th Street, Washington, D. C.
1875. Davis, Fielding L., 209 Locust Street, Evansville, Ind.
1899. Davis, Frederick A., 80 Huntington Avenue, Boston, Mass.
1894. Davis, Franklin S., 201 Perry Avenue, Peoria, Ill.
1878. Davis, John E. L., 743 Madison Avenue, New York, N. Y.
— 1892. Davis, John Jefferson, 504 Monument Square, Racine, Wis.
1899. Davis, Thomas S., 603 Park Avenue, Plainfield, N. J.
— 1894. Davison, William M. W., 1333 W. Lake Street, Chicago, Ill.
1892. Day, George F., Martinsburg, W. Va.
— 1891. Day, Leonidas A. L., 103 State Street, Chicago, Ill.
1887. Deady, Charles, 110 W. 48th Street, New York, N. Y.
1893. Dean, George A., 1103 Main Street, Kansas City, Mo.
1897. Dean, Louis W., Waterville, N. Y.
1891. Dearborn, Henry M., 146 W. 57th Street, New York, N. Y.
1897. Decker, William More, 416 Norwood Avenue, Buffalo, N. Y.
1893. De Baun, Edwin, 142 Main Avenue, Passaic N. J.
— 1869. DE DERKEY, FRANCIS F., 311 W. 3d Street, Los Angeles, Cal.
— 1888. Defendorf, John J., Ionia, Mich.
1899. Dehoff, John W., 453 W. Market St., York, Pa.
1897. Delabarre, Walter E., 222 W. 59th Street, New York, N. Y.
1894. Delamater, Nicholas B., 31 Washington Street, Chicago, Ill.
1892. Delap, Silas C., 1214 Main Street, Kansas City, Mo.

1897. Delavan, Elizabeth Hinchley, Round Lake, N. Y.
— 1881. Demarest, John H., 59 W. 126th Street, New York, N. Y.
— 1895. Dennett, George William, South Farmington, Mass.
— 1898. Dennie, George E., 2315 Portland Avenue, Minneapolis, Minn.
— 1869. DENNIS, LABAN, 30 Central Avenue, Newark, N. J.
— 1890. Denniston, Ira Warren, 1326 L. Street, N.W., Washington, D. C.
1891. DePuy, Richard G., Jamestown, N. Dak.
— 1875. Deschere, Martin, 334 W. 58th Street, New York, N. Y.
1858. DETWILLER, JOHN J., Easton, Pa.
— 1889. Dewey, Willis A., Ann Arbor, Mich.
1899. Diemar, Lena Hess, 1626 Massachusetts Avenue, Cambridge, Mass.
— 1893. Dillingham, Thomas Manly, 8 W. 49th Street, New York, N. Y.
— 1883. Dillow, Geo. M., "The Rutland," 57th St. and B'way, New York, N. Y.
1887. Dills, Malcolm, Carlisle, Ky.
1878. Dinsmore, Samuel W. S., Sharpsburg, Pa.
1898. Dittmer, Ernest G., Manchester, Iowa.
— 1896. Dixey, Mabel G., 401 Chrogan Street, Fremont, O.
1887. Docking, Thomas, 164 Boston Avenue, San Diego, Cal.
1892. Dodd, Harry Lee, Chestertown, Md.
1895. Dodge, Charles E., 913 Elm Street, Manchester, N. H.
1891. Dolan, A. Stanley, Patton, Cal.
1898. Dorris, Alva H., 141 So. 12th Street, Lincoln, Neb.
— 1872. DOUGHTY, FRANCIS E., 512 Madison Avenue, New York, N. Y.
1895. Dowe, Frank LeC., S. Boulevard and Briggs Avenue, New York, N. Y.
— 1887. Dowling, John W., 8 W. 45th Street, New York, N. Y.
1897. Dowling, Joseph Ivimey, 214 State Street, Albany, N. Y.
1882. Downey, F. Edgar, Clinton, Ill.
1893. Downs, James N., 724 Columbus Street, Ottawa, Ill.
1895. Drake, Franklin Joseph, Webster City, Ia.
— 1895. Drake, Joseph H., 826 W. 4th Street, Des Moines, Ia.
— 1871. DRAKE, OLIN M., 70 Huntington Avenue, Boston, Mass.
— 1897. DuBois, Willard C., 357 S. Warren Street, Syracuse, N. Y.
— 1869. DUDLEY, PEMBERTON, 1405 N. 16th Street, Philadelphia, Pa.
— 1892. Dudley, Perry Hall, 1405 N. 16th Street, Philadelphia, Pa.
1892. Duffield, Alfred Manley, 307 Clinton Street, Huntsville, Ala.
1899. Duffield, Alice Virginia, 5537 Madison Avenue, Chicago, Ill.
— 1899. Duncan, James Cation, 131 W. 4th Street, DeKalb, Ill.
— 1866. DUNCAN, THOMAS C., 100 State Street, Chicago, Ill.
— 1899. Dunham, George Perry, 252 Broadway, Lawrence, Mass.
— 1895. Dunlevy, Rita, 328 W. 57th Street, New York, N. Y.
— 1891. Dunn, Charles N., Broadway and Poplar Street, Centralia, Ill.
— 1895. Dunn, Helen S., Broadway and Poplar Street, Centralia, Ill.
1891. Dwinell, Byron L., Taunton, Mass.

1899. Ealer, Percy H., 815 N. 24th Street, Philadelphia, Pa.
1897. Earl, George H., 18 Huntington Avenue, Boston. Mass.
— 1891. Eaton, Charles Woodhull, 420 Walnut Street, Des Moines, Ia.
1893. Eaton, Cora E. Smith, 607 Masonic Temple, Minneapolis, Minn.
— 1895. Eaton, Samuel Lewis, Newton Highlands, Mass.
1876. Eckel, John N., 2711 Sacramento Street, San Francisco, Cal.
1897. Eddy, Ermina Catharine, 500 William Street, Elmira, N. Y.

— 1893. Edgerton, Mark, 1106 Main Street, Kansas City, Mo.
— 1871. EDMUNDSON, WALTER F., 1321 Fifth Avenue, Pittsburg, Pa.
— 1895. Edwards, Franklin W., 26 Hamilton Street, Southbridge, Mass.
— 1894. Elliott, Charles S., 1103 Main Street, Kansas City, Mo.
1896. Elliott, Frank, 1008 Main Street, Kansas City, Mo.
1869. ELLIOTT, JOSEPH B., 493 Clinton Avenue, Brooklyn, N. Y.
1897. Ellis, J. Tressler, Waynesville, O.
— 1899. Ellis, Kate Walton, 4120 Lake Avenue, Chicago, Ill.
— 1892. Ely, Charles F., 34 Washington Street, Chicago, Ill.
— 1895. Emerson, Frederick Lincoln, 118 Hancock Street, Dorchester, Mass.
— 1891. Emerson, Nathaniel Waldo, 601 Boylston Street, Boston, Mass.
— 1895. Emery, John Taylor Gilman, 27 Main Street, Waterborough, Me.
1895. Emery, Winfred Newell, 749 Main Street Waltham, Mass.
— 1899. Enbanks, William Cicero, 306 Broadway, Paducah, Ky.
— 1897. Erb, Peter, 32 Palace Arcade, Buffalo, N. Y.
1867. ERMENTRAUT, JOHN P., 261 4th Street, New York, N. Y.
1894. Erni, G. Oscar, 214 E. Spring Street, New Albany, Ind.
1892. Estep, Charles S., Lexington, Ill.
1874. Evans, Albert J., Fredonia, N. Y.
— 1892. Evans, Henry J., Fayette and Carey Streets, Baltimore, Md.
— 1899. Evans, John A., 1918 Pennsylvania Avenue, Baltimore, Md.
— 1875. Everett, Ambrose S., 37 Garrison Avenue, Jersey City, N. J.
— 1892. Everett, Frederick, 402 Centre Street, Chicago, Ill.
1891. Everhart, Oliver T., Hanover, Pa.

1893. Fackler, Joshua M., Plymouth, O.
— 1871. FAGER, CHARLES B., 120 Walnut Street, Harrisburg, Pa.
— 1882. Fahnestock, Joseph C., Piqua, O.
— 1899. Farwell, Charles Luther, 384 Cambridge Street, Boston, Mass.
— 1887. Faust, Lewis, Schenectady, N. Y.
1892. Fawcett, John M., 1116 Market Street, Wheeling, W. Va.
— 1899. Fay, George DeWitt, 23 Bay View Avenue, Atlantic Highlands, N. J.
— 1894. Fay, Russell P., 165 Warburton Avenue, Yonkers, N. Y.
1890. Fellows, C. Gurnee, 70 State Street, Chicago, Ill.
1867. FELLOWS, H. BARTON, 2969 Indiana Avenue, Chicago, Ill.
1892. Fellows, William Edwin, 134 Hammond Street, Bangor, Me.
— 1897. Ferguson, Arthur B., 45 Federal Street, Salem, Mass.
1896. Ferwald, Herbert E., Cohasset, Mass.
— 1868. FINCH, EDWIN W., Center Ave. and Prospect St., New Rochelle, N. Y.
1855. FINCKE, BERNHARDT, 122 Livingston Street, Brooklyn, N. Y.
1888. Finney, Everett B., 1329 N Street, Lincoln, Neb.
1893. Fischback, Frederick W., Newport, Ky.
1899. Fischer, J. A., 505 Greene Street, Philadelphia, Pa.
— 1873. FISHER, A. LEROY, 315 Pigeon Street, Elkhart, Ind.
1893. Fisher, Anna M., 412 Nicollet Avenue, Minneapolis, Minn.
1873. FISHER, CHARLES E., 31 Washington Street, Chicago, Ill.
— 1897. Fisher, Edward A., 1038 Fillmore Avenue, Buffalo, N. Y.
1899. Fisher, William H., 412 Nicollet Avenue, Minneapolis, Minn.
1895. Fiske, Edwin Rodney, 484 Bedford Avenue, Brooklyn, N. Y.
1867. FISKE, WILLIAM M. L., 484 Bedford Avenue, Brooklyn, N. Y.
1869. FLANDERS, DAVID P., Belfast, Me.

1891. Fleming, John R., 1903 Pacific Avenue, Atlantic City, N. J.
1898. Fletcher, Cyrus G., North Yakima, Wash.
1892. Flinn, Irvine M., 409 W. 8th Street, Wilmington, Del.
1891. Flinn, Lewis W., 510 W. 9th Street, Wilmington, Del.
1881. Flint. Almena P. Baker, 102 Huntington Avenue, Boston, Mass.
1898. Flower, Frank Warren, Carthage, Mo.
1896. Foote, Dellizon A., 200 Paxton Block, Omaha, Neb.
1899. Foote, Theodore, 636 Wood Street, Vineland, N. J.
1895. Forbes, Charles Holt, 429 School Street, Athol, Mass.
1874. Forbes, George F., 42 Williams Street, Worcester, Mass.
1898. Forbes, Wm. O., 77 East 39th Street, Chicago, Ill.
1895. Forsbeck, Filip A., 425 Milwaukee Street, Milwaukee, Wis.
1897. Forster, William A., 328 Rialto Building, Kansas City, Mo.
1881. Foss, David, Newburyport, Mass.
1897. Foss, John B., Crete, Neb.
1880. Foster, Richard N., 553 Jackson Boulevard, Chicago, Ill.
1867. FOSTER, WILLIAM D., 420 W. 11th Street, Kansas City, Mo.
1888. Fowler, De Witt C., Aberdeen, S. Dakota.
1896. Fowler, Walter N., Bluffton, Ind.
1889. Franklin, William A., Harvey, Ill.
1897. Frazee, Charles Edward, 1662 Broadway, Buffalo, N. Y.
1899. Frazer, Calvin A., Illinois Mutual Bank Building, Springfield, Ill.
1897. Frazer, Francis Macdonald, 41 W. 45th Street, New York, N. Y.
1897. Freeborn, Grant, Waterbury, Conn.
1886. Freer, James A., 1523 I Street, N. W., Washington, D. C.
1875. French, Hayes C., Y. M. C. A. Bldg., San Francisco, Cal.
1894. French, Malachi R., 627 Smithfield Street, Pittsburg, Pa.
1896. Frost, William A., Tecumseh, Mich.
1895. Fryer, Winsor F., 26 Oak Street, Middleboro, Mass.
1893. Fulford, George Howard, 233 Phillips Avenue S., Sioux Falls, S. Dak.
1885. Fuller, Charles Gordon, 38 Central Music Hall, Chicago, Ill.
1895. Fuller, Walter Tracy, 738 Dudley Street, Boston, Mass.
1872. Fulton, Henry W., cor. Ripley and Highland Av., Pittsburg, Pa.
1894. Furman, Horace S., 1705 Tioga Street, Philadelphia, Pa.

1886. Gale, Charles A., Rutland, Vt.
1891. Galloway, William L., 1232 Taylor Avenue, St. Louis, Mo.
1890. Gann, John A., 53 N. Market Street, Wooster, O.
1889. Gardiner, William G., 158 So. Pennsylvania Avenue, Atlantic City, N. J.
1884. Gardner, Franklin A., 1018 Fourteenth Street, N. W. Washington, D. C.
1895. Gardner, Frank Augustine, 23 North Street, Salem, Mass.
1894. Gardner, Henry Seth, Lawrence, Kan.
1897. Gardner, Louis Bradstreet.
1899. Garis, Frank A., 220 S. Broad Street, Bethlehem, Pa.
1895. Gary, Clara Emerrette, 546 Columbus Avenue, Boston, Mass.
1899. Garrison, Biddle Hiles, Nat. Homœopathic Hosp. Washington, D. C.
1892. Garrison, John B., 111 East 70th Street, New York, N. Y.
1866. GARSIDE, WILLIAM B., East Orange, N. J.
1896. Garwood, Vashti D., 40 Twelfth Street, Ann Arbor, Mich.
1889. Gatchell, Charles, 162 30th Street, Chicago, Ill.
1895. Geddes, Annie Lowe, 69 Fullerton Avenue, Montclair, N. J.

1881. Geiser, Samuel R., 1511 Baymiller Street, Cincinnati. O.
1891. Geohegan, Wm. A., 918 Hawthorne Ave., Price's Hill, Cincinnati, O.
1896. George, Edgar J., 31 Washington Street, Chicago, Ill.
1897. George, William E., Market and Delaware Sts., Indianapolis, Ind.
1893. Gibbs, James C., Crown Point, Ind.
1897. Gibson, David M., 412 S. Jefferson Avenue, St. Louis, Mo.
1897. Gifford, Edward F., 402 W. 8th Street, Erie, Pa.
1869. GIFFORD, GILBERT L., Hamilton, N. Y.
1879. Gifford, Willis B., Attica, N. Y.
1888. Gilbert, Charles B., 1403 H Street, N. W., Washington, D. C.
1899. Gilbert, Chas. E., 323 W. 23d Street, New York, N. Y.
1891. Gilbert, Irwin B., 2027 Columbia Avenue, Philadelphia, Pa.
1899. Gilbert, Wm. Wallace, 241 S. Jefferson Avenue, St. Louis, Mo.
1894. Gilchrist, James Grant, 215 College Street, Iowa City, Ia.
1890. Gillard, Edwin, 423 Columbus Avenue, Sandusky, O.
1898. Gilstrap, H. Preston, Washington, Kan.
1891. Givens, Amos Jay, Stamford, Conn.
1895. Gleason, Charles Sherman, Wareham, Mass.
1891. Godshall, Samuel G., Edge Hill, Pa.
1891. Goff, Ella D., 41 N. Diamond Street, Allegheny, Pa.
1898. Goff, Sarah A., cor. Harrison and 9th Streets, Canon City, Col.
1897. Goddard, John, Jr., Home City, Ohio.
1897. Goldsmith, Alfred E., Home City, O.
1899. Goodell, Chas. F., 19 E. Patrick Street, Frederick, Md.
1887. Gooding, E. Jeannette, 223 W. Springfield Street, Boston, Mass.
1890. Gooding, Gertrude, Bristol, R. I.
1894. Goodman, Charles H., 3329 Washington Avenue, St. Louis, Mo.
1892. Goodman, Julia, 401 Ross Street, Hamilton, O.
1887. Goodno, William C., 1733 Chestnut Street, Philadelphia, Pa.
1899. Goodrick, Morris H., 360 W. Col. Avenue, Jacksonville, Ill.
1898. Gordon, Arthur Horace, 268 La Salle Avenue, Chicago, Ill.
1870. GORDON, GEORGE A., Chillicothe, Mo.
1883. Gorham, George Elmer, 160 Hamilton Street, Albany, N. Y.
1889. Gorton, Fred. T., Portage, Wis.
1899. Goss, Alice Morgan, 606 Sutter Street, San Francisco, Cal.
1885. Gottschalck, William von, Central Falls, R. I.
1892. Gould, Herbert Dearborn, New Boston, N. H.
1890. Gould, William W., Rochelle, Ill.
1899. Grafton, Atheling Edgar, 6 Phillips Place, Montreal, Canada.
1892. Graham, Walter S., Miami, Fla.
1869. GRAMM, GUSTAVUS E., Ardmore, Pa.
1896. Gramm, Theodore J., 846 N. Broad Street, Philadelphia, Pa.
1891. Grant, William H., Ossipee Center, N. H.
1892. Graves, Kate I., 5663 Washington Avenue, Chicago, Ill.
1869. GRAVES, STOCKBRIDGE P., Saco, Me.
1881. Green, Charles L., 16 Jackson Street, Providence, R. I.
1898. Green, Julia Minerva, 1738 N Street, N. W., Washington, D. C.
1882. Green, William E., Little Rock, Ark.
1871. GREENLEAF, JOHN T., Owego, N. Y.
1874. GREGORY, EDWARD P., Lafayette, near State Street, Bridgeport, Conn.
1896. Gregg, Edward R., 334 S. Highland Avenue, Pittsburg, Pa.

1898. Greiner, Frank Wm., Two Rivers, Wis.
1881. Griffith, Anna E., 501 N. 4th Street, Camden, N. J.
1895. Griffith, Alexander Randall, 535 Wellington Street, Montreal, Can.
1897. Griffith, John B., Lewistown, Pa.
1891. Griffith, Silas, 1431 Girard Avenue, Philadelphia, Pa.
1891. Griffith, Lewis B., 2526 Ridge Avenue, Philadelphia, Pa.
1891. Griffith, William M., 1827, N. 17th Street, Philadelphia, Pa.
1895. Griggs, Elma, 9 E. Seneca Street, Ithaca, N. Y.
1899. Griscom, L. E., 919 So. 5th Street, Camden, N. J.
1899. Gross, Francis O., 1506 N. 7th Street, Philadelphia, Pa.
1883. Gross, James Eldridge, 95 Wabash Avenue, Chicago, Ill.
1870. GROSVENOR, LEMUEL C., 185 Lincoln Avenue, Chicago, Ill.
1889. Grosvenor, Lorenzo N., 2714 Kenmore Avenue, Chicago, Ill.
1895. Grosvenor, Wallace Fahnestock, 1125 Sheffield Avenue, Chicago, Ill.
1897. Grove, Charles E., Hyde Block, Spokane, Wash.
1899. Grumbrecht, Oscar L., 139 High Street, Mt. Holly, N. J.
1893. Grundmann, J. William, 1000 W. Jefferson Avenue, St. Louis, Mo.
1848. GUERNSEY, EGBERT, 180 W 59th Street, New York, N. Y.
1875. Guernsey, Joseph C., 1923 Chestnut Street, Philadelphia, Pa.
1874. GUERNSEY, WILLIAM N., 27 W. 52d Street, New York, N. Y.
1867. GUMPERT, B. B., 840 Franklin Street, Philadelphia, Pa.
1893. Gundelach, Charles H., 3900 Westminster Place, St. Louis, Mo.
1898. Gundelach, Wm. Justus, 3821 Finney Avenue, St. Louis, Mo.
1898. Gurley, Eber Whitney, 39 Windermere Street, E., Cleveland, Ohio.
1898. Gwynne, Evan Edmiston, 566 Garfield Avenue, Chicago, Ill.
1890. Gutherz, Lizzie G., 3689 Olive Street, St. Louis, Mo.
1847. GUY, SAMUEL S., 2517 Parish Street, Philadelphia, Pa.

1897. Hadley, May, 94 Lincoln Avenue, Chicago, Ill.
1899. Haehl, Richard, Alleen Strasse, 23, Stuttgart, Germany.
1897. Haines, Charles Ter Bush, 91 Main Street, Whitesboro, N. Y.
1895. Haines, Oliver Sloane, 137 N. 15th Street, Philadelphia, Pa.
1887. Halbert, Homer V., 4630 Greenwood Avenue, Chicago, Ill.
1898. Hall, Amos C., 1273 E. 75th Street, Chicago, Ill.
1891. Hall, Harrison B., Riverton, N. J.
1889. Hall, Levi, 77 Highland Avenue, Minneapolis, Minn.
1894. Hall, Matthew J., Mamaroneck, N. Y.
1892. Hall, P. Sharpless, 1604 Arch Street, Philadelphia, Pa.
1874. HALL, ROBERT, 117 Broad Street, Providence, R. I.
1885. Hall, William G., 822 Jule Street, St. Joseph, Mo.
1896. Hallman, Victor H., 606½ Central Avenue, Hot Springs, Ark.
1889. Hallock, J. Henry, Saranac Lake.
1898. Halphide, Alvan Cavala, 3458 Wabash Avenue, Chicago, Ill.
1886. Halsey, Frederick W., 272 Newberry Street, Boston, Mass.
1893. Halsted, Milton A., Jacksonville, Ill.
1897. Hamlin, Frederick William, 130 W. 48th Street, New York, N. Y.
1897. Hamlin, George Baldwin, Granada, Minn.
1852. HAMMOND, MILTON, 310 N. Paca Street, Baltimore, Md.
1889. Hanchett, Alfred P., Council Bluffs, Ia.
1893. Hanchett, James C., Salt Lake City, Utah.
1891. Hanchett, John L., 601 Jackson Street, Sioux City, Ia.

— 1889. Hanchett, Wm. Henry, Bee Building, Omaha, Neb.
1898. Hancock, Avery C., Hartington, Neb.
1897. Hancock, Elmer E., 1443 N. 17th Street, Philadelphia, Pa.
— 1893. Hancock, Joseph, 1639 Columbia Avenue, Philadelphia, Pa.
1894. Hann, Lucy M., 100 W. 88th Street, New York, N. Y.
1899. Hansen, Andreas Schantz, Cedar Falls, Iowa.
— 1897. Hardy William James, Belmont, N. Y.
1892. Harman, George W., 900 Broad Street, Newark, N. J.
1889. Harnden, George B., Sherburne, Minn.
1897. Harrell, Samuel, 96 N. 10th Street, Noblesville, Ind.
1899. Harris, John W., 632 17th Street, Denver, Col.
1889. Harris, Nellie R., Des Moines, Ia.
1882. Harris, W. John, 3514 Lucas Avenue, St. Louis, Mo.
— 1897. Harrison, Herbert Alexander, Cooperstown, N. Y.
1894. Harrison, Julia C., "The Cairo," Washington, D. C.
1895. Hartman, W. Louis, "The Kenyon," 601 Warren, St., Syracuse, N. Y.
1895. Hasbrouck, Cornelius J., Hope Street, Bristol, R. I.
1875. Hasbrouck, Everett, 369 Ninth Street, Brooklyn, N. Y.
1887. Hasbrouck, Sayer, 117 Broad Street, Providence, R. I.
1899. Hazeltine, Burton, Y. M. C. A. Bldg., Evanston, Ill.
1889. Hassell, Samuel E., Lancaster, Wis.
— 1892. Hassler, J. Wyllis, 1503 Poplar Street, Philadelphia, Pa.
1881. Hassler, William A., 105 N. 8th Street, Allentown, Pa.
1893. Hastings, William C., 11 S. Washington Street, Van Wert, O.
1857. HATCH, PHILO L., 1901 San Pascual Street, Santa Barbara, Cal.
— 1892. Hathaway, Henry Skinner, 146 W. 92d Street, New York, N. Y.
1896. Hawxhurst, Howard H., 1333 L Street, N. W., Washington, D. C.
1879. Hawkes, William J., 315 S. Broadway, Los Angeles, Cal.
1895. Hawley, Hercules Reed, Staatsburg, N. Y.
1898. Hayden, Arthur Sumner, Wall Lake, Iowa.
1865. HAYNES, JOHN R., 262 N. Illinois Street, Indianapolis, Ind.
1899. Hayward, Abner, 27 Sutton Place, New York, N. Y.
1869. HAYWARD, JOSEPH W., Taunton, Mass.
1895. Haywood, George William, 45 Hanover Street, Lynn, Mass.
1899. Haywood, Julia F., 612 West Avenue, Rochester, N. Y.
1884. Hazard, Theodore Lincoln, 12 N. Clinton Street, Iowa City, Ia.
1897. Heath, Gertrude Emma, 164 Water Street, Gardiner, Me.
1888. Heberton, William W., South Orange, N. J.
1890. Hedges, Albert P., 754 E. Fullerton Avenue, Chicago, Ill.
1868. HEDGES, SAMUEL P., 890 Evanston Avenue, Chicago, Ill.
1897. Helfrich, Charles H., 64 W. 49th Street, New York, N. Y.
1887. Heilner, Herbert Franklin, Burr Building, Scranton, Pa.
1853. HELMUTH, WILLIAM TOD, 504 Fifth Avenue, New York, N. Y.
1887. Helmuth, William Tod, Jr., 465 Lexington Avenue, New York, N. Y.
1896. Hendershott, Lizzie A., Irving, Mich.
1895. Hendy, Clara A., Oak Park, Cook Co., Ill.
1894. Henry, Samuel Dwyer, Excelsior Springs, Mo.
1892. Heritage, Alfred C., Jenkintown, Pa.
1899. Heritage, Joseph B., Langhorne, Pa.
1898. Hermann, John, 701 Jackson Street, Sioux City, Iowa.
1874. Herron, Charles D., 3505 Butler Street, Pittsburg, Pa.

1887. Hershberger, Joseph P., 351 East Main Street, Lancaster, O.
1891. Hetherington, Judson Egbert, 1035 Warren Avenue, Chicago, Ill.
1899. Hertz, Sue Emma, 102 W. 44th Street, New York, N. Y.
1891. Hickox, Kate Louisa, Kansas City, Mo.
1885. Hicks, Susan M., "The Grand," Atlanta, Ga.
1871. HIGBEE, ALBERT E., Masonic Temple, Minneapolis, Minn.
1871. HIGBEE, CHESTER G., 130 Western Avenue, N., St. Paul, Minn.
1891. Hill, Lucy Chaloner, 492 N. Main Street, Fall River, Mass.
1898. Hill, Marion Jasper, 507 Locust Avenue, Sterling, Ill.
1895. Hill, Noble Hind, 35 Huntington Avenue, Boston, Mass.
1867. HILL, ROBERT L., 553 Albion Street, Oakland, Cal.
1892. Hill, W. Scott, 154 State Street, Augusta, Me.
1899. Hills, Howard B., 31 West Wood Street, Youngstown, Ohio.
1897. Hilton, Willard M., 435 Penn Avenue, Waverly, N. Y.
1876. Hindman, David R., Marion, Ia.
1896. Hinsdale, Wilbert B., Ann Arbor, Mich.
1891. Hislop, Margaret, 313 M Street, N. W., Washington, D. C.
1873. HITCHCOCK, DEXTER, Norwalk, Conn.
1879. Hoag, Clitus S., 321 Lafayette Street, Bridgeport, Conn.
1896. Hoag, Frank L., 373 S. College Avenue, Grand Rapids, Mich.
1896. Hoag, James H., Oxford, Ind.
1887. Hobart, William F., Leonard, N. Dak.
1899. Hobson Sarah Matilda, 7528 Saginaw Avenue, Chicago, Ill.
1895. Hodgdon, Frank A., 45 Pleasant Street, Malden, Mass.
1897. Hodge, Jacob Sylvester, Raymond Ave., and Green St., Pasadena, Cal.
1895. Hodge, William H., 265 Third Street, Niagara Falls, N. Y.
1897. Hœfle, Henry C., 314 Brady Street, Davenport, Ia.
1892. Hoey, William F., Frederica, Del.
1880. Hofmann, Charles H., 510 S. Highland Avenue, Pittsburg, Pa.
1886. Hoffman, Jacob Oliver, Orleans, Neb.
1897. Holden, Horace Thomas, Norfolk, Neb.
1897. Hollister, Frederick Kellogg, 521 Madison Avenue, New York, N. Y.
1899. Holmes, Abby Virginia, 1512 So. 29th Street, Omaha, Neb.
1896. Holmes, Frances W., Bellevue Avenue, Upper Montclair, N. J.
1869. HOLT, EDWARD B., Lowell, Mass.
1897. Holton, Charles Smoot, 316 Main Street, Richmond, Ky.
1893. Honberger, Frank Henry, 3808 Indiana Avenue, Chicago, Ill.
1894. Hood, C. Todd, 31 Washington Street, Chicago, Ill.
1885. Hooker, Edward Beecher, 253 Main Street, Hartford, Conn.
1889. Hoover, Willis C., Iquique, Chili, S. A.
1896. Hopkins, William T., 65 Broad Street, Lynn, Mass.
1897. Hopkins, William Wilder, 114 Main Street, Geneva, N. Y.
1899. Hornby, Mary Stamper, 1 Monadnock Street, Dorchester, Mass.
1883. Horner, J. Richey, 504 Permanent Block, Euclid Avenue, Cleveland, O.
1888. Horning, David W., 604 Dayton Building, Minneapolis, Minn.
1888. Hough, Walter D., Niagara Falls, N. Y.
1867. HOUGHTON, HENRY C., 7 W. 39th Street, New York, N. Y.
1888. Houghton, Neidhard H., 845 Boylston Street, Boston, Mass.
1899. House, Charles E., 609 W. Tuscarawas Street, Canton, O.
1875. House, Robert B., 108 E. High Street, Springfield, O.
1899. House, Wallace B., Flower Hosp. 63d St. and Ave. A, New York, N. Y.

1899. Howard, Alonzo Gale, 1977 Centre Street, W. Roxbury, Mass.
1883. Howard, Erving Melville, 401 Linden Street, Camden, N. J.
1881. Howe, J. Morgan, 58 W. 47th Street, New York, N. Y.
1898. Howe, Warren D., 831 Main Street, Canon City, Col
1889. Howe, Willella, Santa Anna, Cal.
1899. Howlett, George C., Atkinson, Ill.
1883. Hoyt, Charles, Chillicothe, O.
1894. Hoyt, Lucius F., Jefferson, Ia.
1896. Hoyt, Mary O., 26 N. 4th Street, Keokuk, Ia.
1891. Hubbard, Charles H., 8th and Madison Streets, Chester, Pa.
1894. Hudson, Thomas Howard, Kansas City. Mo.
1899. Hughes, Charles Wilson, East Palestine, Ohio.
1888. Humphrey, Frank M.
1898. Humphrey, Howard M. Lake City, Iowa.
1869. HUMPHREYS, OTIS M., 392 Wistford Street, Lowell, Mass.
1894. Humphrey, William Armine, Plattsmouth, Neb.
1899. Humphreys, Edward, Somerton, Philadelphia, Pa.
1895. Hunt, Annie W., 217 Washington Street, Providence, R. I.
1892. Hunt, Charles Richard, 262 Union Street, New Bedford, Mass.
1874. HUNT, DWIGHT B., 159 Madison Avenue, New York, N. Y.
1899. Hunt, Ella G., 608 W. 8th Street, Cincinnati, Ohio.
1898. Hunt, George Henry, Paris, Ill.
1896. Hunt, John S., 200 E. State Street, Columbus, O.
1886. Hunt, Maurice P., 200 E. State Street, Columbus, O.
1888. Hurd, S. Wright, 73 Main Street, Lockport, N. Y.
1898. Hurd, Laura B., 745 Guererro Street, San Francisco, Cal.
1896. Huss, John R., Eureka, Kan.
1897. Hussey, Elisha P., 493 Porter Avenue, Buffalo, N. Y.
1872. HUTCHINS, HORACE S., Batavia, N. Y.
1899. Hutchinson, John, 693 Madison Avenue, New York, N. Y.
1895. Hyde, Louis D., Owego, N. Y.
1896. Hyde, Rufus J., Eaton Rapids, Mich.

1897. Irons, Francesca L., Church Street, Brookfield Village, N. Y.
1894. Irvine, Joseph Clinton, Steele Block, Denver, Col.
1893. Irwin, Thomas A., 1234 Liberty Street, Franklin, Pa.
1897. Irving, Walter W., 173 Wisconsin Street, Milwaukee, Wis.

1876. Jackson, Edward R., Dubuque, Ia.
1878. Jackson, William L., 76 Dudley Street, Roxbury, Boston, Mass.
1859. JAMES, BUSHROD W., cor Green and 18th Streets, Philadelphia, Pa.
1897. James, D. Bushrod, 2005 N. 12th Street, Philadelphia, Pa.
1866. JAMES, JOHN E., 1521 Arch Street, Philadelphia, Pa.
1891. Janney, O. Edward, 837 N. Eutaw Street, Baltimore, Md.
1886. Jefferds, Henry Clarke, 67 Dakum Building, Portland, Ore.
1859. JEFFERDS, GEORGE P., Bangor, Me.
1899. Jeffrey, George Clinton, 343 Jefferson Avenue, Brooklyn, N. Y.
1896. Jenkins, Charles G., Mason, Mich.
1899. Jenkins, George Hamilton, 139 Main Street, Binghamton, N. Y.
1891. Jenkins, Ralph, 1732 Massachusetts Avenue, N. W., Washington, D. C.
1894. Jenks, Frank R., 332 Main Street, Pawtucket, R. I.

1873. JENNEY, WILLIAM H., Broadway and 12th Street, Kansas City, Mo.
1887. Jewitt, Edward H., 484 Arcade, Cleveland, O.
1893. Johns, Emory B., 24 E. 2d Street, Lexington, Ky.
1893. Johnson, Charles Frederic, 26 Market Street, Newburyport, Mass.
1893. Johnson, Cora May, Skowhegan, Me.
1897. Johnson, Frederick Charles, 191 Congress Street, Bradford, Pa.
1876. Johnson, George H. T., Atchison, Kan.
1860. JOHNSON, ISAAC D., Kennett Square, Pa.
1876. Johnson, Maria N., 963 Orange Street, Los Angeles, Cal.
1870. JOHNSON, ROBERT B., Ravenna, O.
1895. Johnson, Sara, "The Cluny," Copley Square, Boston, Mass.
1890. Johnson, Solomon D., 204 Grand Avenue, Milwaukee, Wis.
1892. Johnson, Thaddeus L., Pomona, Cal.
1886. Johnson, Theodore M., 200 Susquehanna Avenue, Pittston, Pa.
1896. Johnston, Charles L., 467 Vanderbilt Avenue, Brooklyn, N. Y.
1891. Jones, A. Cuvier, Tucson, Ariz.
1874. Jones, Charles E., Albany, N. Y.
1899. Jones, Everett, 1618 Beacon Street, Brookline, Mass.
1873. JONES, GAIUS J., 5 Rockwell Street, Cleveland, O.
1867. JONES, HENRY C., 1220 S. First Avenue, Mount Vernon, N. Y.
1892. Jones, John J., 1802 Mount Vernon Street, Philadelphia, Pa.
1875. Jones, Leonidas M., Brooklyn, Mich.
1898. Jones, Mary Hoffman, Hyde Park, Chicago, Ill.
1899. Jordan, Oscar J., 704 Snyder Avenue, Philadelphia, Pa.
1889. Just, August Adolph, Crookston, Minn.
1899. Justice, Harry B., 14 S. 3d Street, Ironton, O.

1890. Kaetel, Charles H., Maysville, Wis.
1896. Kahlke, Charles E., 3034 Michigan Avenue, Chicago, Ill.
1876. Kanouse, Abijah W., Appleton, Wis.
1893. Karsner, Charles W., 1320 Broad Street, Philadelphia, Pa.
1893. Karst, F. August, 636 Sedgwick Street, Chicago, Ill.
1899. Kase, Edmund Harris, 1325 Girard Avenue, Philadelphia, Pa.
1892. Kasselman, Harry Christian, Midway, Ky.
1888. Keegan, William A., 40 South Clinton Street, Rochester, N. Y.
1891. Keeler, Charles B., New Canaan, Conn.
1889. Keeler, E. Elmer, 423 E. Jefferson Street, Syracuse, N. Y.
1874. KEEP, CAROLINE J. YEOMANS, 308 W. 36th St., New York, N. Y.
1867. KEEP, J. LESTER, 460 Clinton Avenue, Brooklyn, N. Y.
1898. Kehoe, Henry C., Flemingsburg, Ky.
1892. Kehr, Samuel S., California Building, Denver, Col.
1897. Keith, Ellen L., Winter Street, Framingham, Mass.
1895. Keith, Horace G., 107 South Broadway, Yonkers, N. Y.
1893. Keith, William E., Porter Building, San José, Cal.
1858. KELLOGG, EDWIN M., 115 E 37th Street, New York, N. Y.
1881. Kennedy, Alonzo L., 286 Newbury Street, Boston, Mass.
1894. Kenyon, Frances Aureola, 865 N. Main Street, Providence, R. I.
1899. Keppel, Frederick D., Owenton, Ky.
1896. Kerch, Harry E., Dundee, Ill.
1894. Kerr, Harlan T., 105 Perry Street, Peoria, Ill.
1878. Kershaw, J. Martine, 3421 Washington Avenue, St. Louis, Mo.

1897. Kilgour, Peter Thompson, College Hill, O.
1870. KING, EDWARD H., 729 Sixteenth Street, Denver, Col.
1897. King, Walter Joel, 2348 Champa Street, Denver, Col.
1888. King William R., 1422 K Street, N. W., Washington, D. C.
1891. King, William Harvey, 64 W. 51st Street, New York, N. Y.
1894. King, Sylvester M., Albia, Ia.
1895. Kingsbury, Edward N., 93 Blackstone Street, Woonsocket, R. I.
1891. Kingsman, Richard, 701 E. Capitol Street, Washington, D. C.
1887. Kinne, Arthur B., Syracuse, N. Y.
1887. Kinne, E. Olin, 516 Warren Street, Syracuse, N. Y.
1892. Kinne, Porter S., Paterson, N. J.
1869. KINNE, THEODORE Y., Paterson, N. J.
1891. Kinley, Joseph B., 1406 Champa Street, Denver, Col.
1880. Kinyon, Claudius B., Ann Arbor, Mich.
1870. KIPPAX, JOHN R., 3154 Indiana Avenue, Chicago, Ill.
1892. Kirk, Ellen Maria, 169 W. 7th Street, Cincinnati, O.
1893. Kirkland, Edward, Bellow's Falls, Vt.
1890. Kirkpatrick, John C., 328 W. 3d Street, Los Angeles, Cal.
1891. Kistler, Abraham L., 115 N. 9th Street, Allentown, Pa.
1899. Kistler, Horace Edwin, 313 Main Street, Johnstown, Pa.
1869. KITTINGER, LEONARD, 724 King Street, Wilmington, Del.
1886. Kittinger, Leonard Armor, 724 King Street, Wilmington, Del.
1899. Kline, Andrew K., Princeton, N. J.
1899. Kline, David C., 5th and Chestnut Streets, Reading, Pa.
1895. Klopp, Henry Irwin, Westboro, Mass.
1871. KNERR, CALVIN B., 1137 Spruce Street, Philadelphia, Pa.
1887. Knight, Stephen H., 18 W. Willis Avenue, Detroit, Mich.
1897. Knowlton, James Mathews, S. 9th Street, Indiana, Pa.
1899. Knowlton, Wm. Waldo, 113 So. 16th Street, Philadelphia, Pa.
1896. Koch, Margaret, 628 Fourth Street, S. E., Minneapolis, Minn.
1875. Korndœrfer, Augustus, 1728 Green Street, Philadelphia, Pa.
1897. Korndœrfer, Augustus, Jr., 1728 Green Street, Philadelphia, Pa.
1886. Kraft, Frank, 57 Bell Avenue, Cleveland, O.
1897. Krauss, James, 439 Boylston Street, Boston, Mass.
1865. KREBS, FRANCIS H., 42 Union Park, Boston, Mass.
1896. Kreider, Martin K., Goshen, Ind.
1892. Krewson, Amos D., 4613 Paul Street, Frankford, Philadelphia, Pa.
1888. Krogstad, Henry, 915 Sixteenth Street, N. W., Washington, D. C.
1899. Krusen, Edward A., Collegeville, Pa.
1899. Kurtz, Alfred J., 1531 S. 13th Street, Philadelphia, Pa.

1894. Laidlaw, George Frederick, 137 W. 41st Street, New York, N. Y.
1887. Laird, Frank F., Los Angeles, Calif.
1874. Laird, William T., Watertown, N. Y.
1897. Lambden, Frank W., 95 E. Chicago Avenue, Chicago, Ill.
1896. Laance, John D., 21 Broadway, Providence, R. I.
1899. Land, Joseph Foster, 130 W. 126th Street, New York, N. Y.
1896. Lards, Charles H., 33 Butler Street, Adrian, Mich.
1898. Larkeque, Garrett Bancroft Breckinridge, 345 Main St., Athol, Mass.
1895. Latham, Carrie Augusta, 38 Central Street, Leominster, Mass.
1899. Laughlin, Thomas Livezey, 2126 N. Park Avenue, Philadelphia, Pa.

1895. Lawrence, F. Mortimer, 1601 Girard Avenue, Philadelphia, Pa.
1894. Lawrence, George W., 5 N. Tejon Street, Colorado Springs, Col.
1885. Lawshé, John Z., 116½ Peachtree Street, Atlanta, Ga.
1891. Layman, Alfred, 1630 N. 18th Street, Philadelphia, Pa.
1898. Leake, Endell N., 237 W. Sixth Street, Tremont, Neb.
1889. Leal, Malcolm, 107 W. 48th Street, New York, N. Y.
1896. Leavitt, Henry H., 909 Fourth Street, S. E., Minneapolis, Minn.
1882. Leavitt, Sheldon, 148 Thirty-seventh Street, Chicago.
1899. Lee, George Hyde, 1620 15th Street, N.W., Washington, D. C.
1888. Lee, John Mallory, 89 Plymouth Avenue, Rochester, N. Y.
1888. Lee, Sarah Idella.
1890. Lefferts, Franklin P., Belvidere, N. J.
1895. Lehman, Franklin Frees, Kingsbury Block, Sandusky, O.
1899. Leipold, William C. A., 3701 Cottage Grove Avenue, Chicago, Ill.
1897. Leitch, Robert Newton, Lerna, Ill.
1890. Leland, A. G., Whitewater, Wis.
1891. Leland, Clarence H., 128 Merrimack Street, Lowell, Mass.
1896. Lenfestey, John A., 27 N. Gratiot Street, Mount Clemens, Mich.
1891. Lentz, Levi R., Fleetwood, Pa.
1882. Leonard, William E., 608 Nicollet Avenue, Minneapolis, Minn.
1899. Leopold, H. Preston, 310 W. Chelton Avenue, Germantown, Pa.
1886. Le Seuer, John Wesley, Batavia, Genesee County, N. Y.
1888. Leseuer, Oscar, 406 Cass Avenue, Detroit, Mich.
1897. Lewis, Frederick Daniel, 188 Franklin Street, Buffalo, N. Y.
1877. Lewis, F. Park, 454 Franklin Street, Buffalo, N. Y.
1871. Lewis, Henry M., "Florence," 18th St. and 4th Av., New York, N. Y.
1880. Lewis, Joseph, 330 National Avenue, Milwaukee, Wis.
1899. Lewis, J. Perry, 28th Street and National Avenue, San Diego, Cal.
1899. Lichtenwalner, Abbott B., 2435 N. 7th Street, Philadelphia, Pa.
1893. Light, Jacob Wilbert, Kingman Kan.
1895. Lines, Mary Louise, 344 Washington Avenue, Brooklyn, N. Y.
1887. Linn, Alexander M., 605 Walnut Street, Des Moines, Ia.
1893. Linn, Ellis Gregg, Mt. Pleasant, Ia.
1885. Linnell, E. H., 61 Broadway, Norwich, Conn.
1895. Lippitt, Louis Davis, 41 Pocasset Avenue, Olneyville, R. I.
1893. Llewellyn, Henry S., N. E. c. 5th and Harris Aves., La Grange, Ill.
1893. Loelkes, George, 202 S. Jackson Street, Belleville, Ill.
1899. Low, Joseph H., 2458 Indiana Avenue, Chicago, Ill.
1890. Lowe, Thomas, Slayton, Minn.
1885. Lowenthal, Louis, 1405 W. 103d Street, Chicago, Ill.
1898. Loy, Edward N., cor. Franklin and Walnut Streets, Troy, Ohio.
1887. Ludlam, Reuben, Jr., 2327 Michigan Avenue, Chicago, Ill.
1873. Lukens, Merriken B., 161½ Edgewood Avenue, Atlanta, Ga.
1896. Lunger, Justus S., E. Water Street, Prospect, O.
1897. Luyties, Carl J., 2816 Lafayette Avenue, St. Louis, Mo.
1899. Lyon, Melvern S., 24 W. Main Street, Haddonfield, N. J.
1899. Lyons, Matilda Jamison, Cadiz, Ohio.

1895. Maas, Elizabeth C., 129 N. Main Street, Rockford, Ill.
1895. MacBride, Nathaniel Louis, 158 W. 43d Street, New York, N. Y.
1892. MacCallum, John H., 408 Monroe Avenue, Rochester, N. Y.

1893. MacCracken, Mary E. Avery, 4327 Greenwood Avenue, Chicago, Ill.
1890. MacCracken, William P., 4327 Greenwood Avenue, Chicago, Ill.
1892. MacDonald, John A.
1891. MacDonald, Thomas L., 1402 Massachusetts Avenue, N. W., Washington, D. C.
1891. Macfarlan, Duncan, 3924 Chestnut Street, Philadelphia, Pa.
1868. MACFARLAN, MALCOLM, 1805 Chestnut Street, Philadelphia, Pa.
1895. Mack, Helen G. Flagler, 92 White Street, Boston, Mass.
1899. Mackenzie, George W., Somerton, Pa.
1886. MacLachlan, Daniel A., 1301 Majestic Building, Detroit, Mich.
1898. Macomber, Addison P., Atlantic, Ohio.
1887. Macomber, Henry K., Pasadena, Cal.
1891. Macrum, Charles A., Marquam Block, Portland, Ore.
1899. McBean, George Martin, 3326 Vernon Avenue, Chicago, Ill.
1896. McCauley, John C., 128 Connecticut Street, Rochester, Pa.
1896. McCausland, H. G., 25 High Street, W. Detroit, Mich.
1881. McClellan, David, 104 Clinton Avenue, West Hoboken, N. J.
1879. McClelland, John B., 409 Penn Avenue, Pittsburg, Pa.
1867. MCCLELLAND JAMES H., cor 5th and Wilkins Avenues, Pittsburg, Pa.
1884. McClelland, Robert Watson, c. 5th and Wilkins Aves., Pittsburg, Pa.
1881. McClure, Eliza Lang, 1919 Wallace Street, Philadelphia, Pa.
1894. McClure, John R., 98 E. 2d Street, Portsmouth, O.
1898. McConnell, Carl Philip, Kirksville, Mo.
1896. McCormick, A. Lee, 3110 Woodburn Avenue, Cincinnati, O.
1895. McCullock, Carleton B., Cook County Hospital, Chicago, Ill.
1873. MCDERMOTT, GEORGE C., Odd Fellows' Temple, Cincinnati, O.
1874. MCDONALD, WILLIAM O., 117 W. 44th Street, New York, N. Y.
1886. McDowell, Charles, 116 W. 13th Street, New York, N. Y.
1891. McDowell, George W., 136 W. 130th Street, New York, N. Y.
1894. McElwee, L. Claude, 215 S. Jefferson Avenue, St. Louis, Mo.
1874. MCGAVOCK, CLARA PLIMPTON, P. O. Box 346, Nashville, Tenn.
1869. MCGEORGE, WALLACE, 521 Broadway, Camden, N. J.
1893. McGill, James Palmer, 4553 Forestville Avenue, Chicago, Ill.
1899. McGranaghan, William H., 220 W. Federal Street, Youngstown, Ohio.
1899. McHarrie, William, 53 Prince Arthur Street, Montreal, Canada.
1896. McIntyer, Edwin R., 386 N. Clark Street, Chicago, Ill.
1889. McKinney, Samuel P., 829 Warren Avenue, Chicago, Ill.
1891. McKinstry, Frank P., Washington, N. J.
1896. McLaren, William R., 25 Washington Avenue, Detroit, Mich.
1891. McMichael, Arkell R., 969 Madison Avenue, New York, N. Y.
1896. McMillan, Frances, Jackson Building, Nashville, Tenn.
1891. Maddux, Daniel P., 700 Madison Street, Chester, Pa.
1895. Maeder, John G., 304 E. 120th Street, New York, N. Y.
1891. Malin, William H., Chestnut Hill, Philadelphia, Pa.
1898. Mann, Eugene Langdon, 681 Endicott St., St. Paul, Minn.
1895. Mann, Martha Elizabeth, 2 Commonwealth Avenue, Boston, Mass.
1896. Mann, Jesse E., Fonda Block, Louisville, Ky.
1894. Mansfield, Harry Knox, 19 W. Chelten Ave., Germantown, Phila., Pa.
1881. Mansfield, Job R., 4852 Main Street, Germantown, Philadelphia, Pa.
1848. MARCY, ERASTUS E., 396 Fifth Avenue, New York, N. Y.
1897. Marcy, Henry William, 1148 Main Street, Buffalo, N. Y.

___1892. Mark, Ella V., 940 Madison Avenue, Baltimore, Md.
___1895. Marsh, Franklin F., 106 Tremont Street, Boston, Mass.
___1892. Marshall, Anna M., 1420 Chestnut Street, Philadelphia, Pa.
___1890. Marshall, Robert S., 424 Shady Avenue, Pittsburg, Pa.
1871. MARTIN, CONSTANTINE H., Allentown, Pa.
1893. Martin, Eleanor Frances, 606 Sutter Street, San Francisco, Cal.
1899. Martin, Frederick H., Milwaukee, Wis.
___1895. Martin, George Albert, Boone, Boone County, Ia.
1893. Martin, Francis V., Westville, Ind.
___1891. Martin, George Forrest, 17 Kirk Street, Lowell, Mass.
___1889. Martin, George H., 606 Sutter Street, San Francisco, Cal.
___1897. Martin, Leslie, 22 Genesee Street, Baldwinsville, N. Y.
___1891. Martin, Lynn Arthur, 74 Exchange Street, Binghamton, N. Y.
___1892. Martin, Truman J., 245 North Street, Buffalo, N. Y.
___1878. Martin, William J., 1712 Carson Street, S., S. Pittsburg, Pa.
1867. MASON, STEPHEN R., Devall's Bluff, Ark.
___1897. Massinger, Omray Lester, 293 State Street, Bridgeport, Conn.
1899. Mastin, James William, 25 18th Avenue, Denver, Col.
___1892. Mattson, Alfred Simmons, Moorestown, N. J.
1894. Maurer, Joseph M., 59 W. Wheeling Street, Washington, Pa.
1892. Maxwell, Lewis K., 2208 Monroe Street, Toledo, Ohio.
1895. May. Geo. Elisha, Institution Av. & Beacon St., Newton Centre, Mass.
___1887. Maycock, Burt J., 33 Allen Street Buffalo, N. Y.
___1891. Mayer, Charles R., 1032 St. Charles Avenue, New Orleans, La.
1895. Meade, Stephen Johnson D., 417 Everett Street, Cincinnati, O.
___1895. Meader, Lee Douglas, 28 W. 7th Street, Cincinnati, O.
1891. Means, J. W., Troy, O.
1894. Mellies, Charles, 3825 N. 20th Street, St. Louis, Mo.
___1894. Menninger, Charles Frederic, 727 Kansas Avenue, Topeka, Kan.
___1891. Mercer, Edward W., 157 N. 15th Street, Philadelphia, Pa.
___1871. MERCER, ROBERT P., 223 W. 3d Street, Chester, Pa.
1876. Mercer, William M., 1815 Church Street, Galveston, Tex.
___1898. Merryman, Thos. T., 533 W. 27th Street, Lincoln, Neb.
___1898. Metcalf, Frank A., 47th and Kenwood Ave., Chicago, Ill.
1897. Mickle, J. Byron, Main Street, Cambridge Springs, Pa.
1871. MIDDLETON, CALEB S., 1523 Girard Avenue, Philadelphia, Pa.
1869. MIDDLETON, MELBOURNE F., 423 Market Street, Camden, N. J.
1894. Miessler, C. F. Otto, Columbus, Platt Co., Neb.
1887. Milbank, William E., 111 State Street, Albany, N. Y.
1889. Miller, Byron E., "The Dekum," Portland, Ore.
1875. Miller, Christopher C., 31 Winder Street, Detroit, Mich.
___1895. Miller, Edward Roscoe, 15 Merriman Street Leominster, Mass.
1883. Miller, John, 48 St. John's Place, Buffalo, N. Y.
1867. MILLER, ROBERT E., Oxford, N. Y.
___1895. Miller, Lisbeth Dora, 12 Cordis Street, Boston, Mass.
1899. Miller, Mary Ventnor, Atlantic City, N. J.
1888. Miller, Zachary T., 2013 Carson Street, Pittsburg, Pa.
1898. Miller, Robt. P., Oskaloosa, Iowa.
1895. Mills, Walter Sands, 154 West 119th Street, New York, N. Y.
1896. Mills, Wesley J., Howell, Mich.
1887. Millsop, Sarah J., Bowling Green, Ky.

1897. Miner, Herbert Smith, 909 Central Avenue, Fort Dodge, Ia.
1898. Miner, James B., Osage, Iowa.
1888. Minton, Henry Brewster, 165 Joralemon Street, Brooklyn, N. Y.
1896. Mitchell, Clifford, 70 State Street, Chicago, Ill.
1871. MITCHELL, JOHN J., Newburgh, N. Y.
1898. Mitchell, John A., 69 N. Third Street, Newark, Ohio.
1875. Mitchell, John Nicholas, 1505 Spruce Street, Philadelphia, Pa.
1881. Moffat, Edgar V., 476 Main Street, Orange, N. J.
1881. Moffat, John L., 1136 Dean Street, Brooklyn, N. Y.
1892. Moffit, Melvin M., 127 B Street, S. E., Washington, D. C.
1876. Mohr, Charles, 1823 Green Street, Philadelphia, Pa.
1876. Monmonier, Julius L., 480 Classon Avenue, Brooklyn, N. Y.
1894. Montgomery, Phineas J., 217 Fourth Street, Council Bluffs, Ia.
1891. Montgomery, Richard W., 48 W. 94th Street, New York, N. Y.
1895. Monroe, John Eugene, Orange, Mass.
1896. Moon, Seymour B., 1314 Eighth Avenue, Beaver Falls, Pa.
1892. Moore, J. Herbert, Brookline, Mass.
1898. Moorhead, James, 743 Twelfth Street, Marion, Iowa.
1893. Mordoff, Charles H., Genoa, Ill.
1867. MORGAN, JOHN C., Milville, N. J.
1884. Morgan, William L., 202 W. Franklin Street, Baltimore, Md.
1890. Morgan, Willis B., 4200 N. Grande Avenue, St. Louis, Mo.
1890. Morely, Frank W., Washington Row, Sandusky, O.
1873. MORRILL, EDWIN C., Norwalk, O.
1894. Morrison, Frank A., 6 S. Main Street, Rock Creek, O.
1899. Morrow, Emory H., 943 17th Street, Altoona, Pa.
1898. Morse, Bertrand, Atlantic, Iowa.
1898. Morse, Lucius B., Cook County Hospital, Chicago, Ill.
1872. MORSE, LUCIUS D., P. O. Box 584, Atlanta, Ga.
1869. MORSE, MARTIN V. B., Manchester, N. H.
1898. Morton, Ed. Clarence, 2348 Champa Street, Denver, Col.
1899. Moseley, George T., 202 Delaware Avenue, Buffalo, N. Y.
1897. Mosher, Charles Leonard.
1891. Mosher, Mary E., 53 Blue Hill Avenue, Roxbury, Mass.
1899. Moslander, William S., 837 Penn Street, Camden, N. J.
1881. Moss, Mary Denison, 231 Broadway, Providence, R. I.
1869. MOSSMAN, NATHAN A., 28 E 47th Street, New York, N. Y.
1890. Mowry, Henry P., Bronson, Mich.
1899. Mudge, Katherine G., 309 Essex Street, Salem, Mass.
1896. Mueller, Gustave A., 400 Penn Avenue, Pittsburg, Pa.
1894. Mulford, Clarence H., Greeley, Col.
1897. Müller, Laura, 213 Stanley Street, Montreal, Can.
1899. Muncie, Libbie Hamilton, 119 Macon Street, Brooklyn, N. Y.
1892. Munns, Charles O., Oxford, O.
1891. Munson, Milton L., 1503 Pacific Avenue, Atlantic City, N. J.
1892. Murdock, Edward A., 22 Pleasant Street, Spencer, Mass.
1899. Murphy, Sarah A., 727½ 8th Street, Louisville, Ky.
1893. Myers, Amos J., Creston, Ia.
1895. Myers, Charles E., 170 Green Lane, Manayunk, Philadelphia, Pa.
1891. Myers, Samuel I., Avenue C and W. 33d Street, Bayonne, N. J.

1892. Nead, Will M., 205 State Street, Albany, N. Y.
1894. Neal, Geore H., Falls City, Neb.
1867. NEGENDANK, AUGUSTUS, 1112 Washington Street, Wilmington, Del.
1891. Negendank, Egmont T., 1112 Washington Street, Wilmington, Del.
1893. Neiberger, William Emory, 402 W. Jefferson Street, Bloomington, Ill.
1895. Neilson, Howard Stout, 46 W. 48th Street, New York, N. Y.
1890. Neumeister, Anton E., 1214 Main Street, Kansas City, Mo.
1899. Nevin J. Lawrence, 158 Bowers Street, Jersey City, N. J.
1892. Newberry, Frank J., 12 N. Clinton Street, Iowa City, Ia.
1890. Newell, Robert C., 70 State Street, Chicago, Ill.
1895. Newton, Frank Loomis, 147 Highland Avenue, Somerville, Mass.
1897. Newton, John Burnell; Unionsville, Conn.
1876. Nichols, Ammi S., 608 Dekum Block, Portland, Ore.
1880. Nichols, Charles L., Worcester, Mass.
1897. Nichols, G. Louis, Spring Street, Stafford Springs, Conn.
1886. Nickelson, W. H., A. D. Ripley Block, Adams, N. Y.
1893. Nivison, Anna T., 567 Orange Street, Newark, N. J.
1899. Noble, Daniel Cook, Middlebury, Vt.
1889. Noble, James H., Eau Claire, Wis.
1893. Norris, Maria Whittelsey, Widdicomb Building, Grand Rapids, Mich.
1894. Northrup, Emerson S., 414 Garfield Avenue, Kansas City, Mo.
1889. Norton, Arthur B. 16 W, 45th Street, New York, N. Y.
1887. Norton, Claude R., 700 N. 40th Street, Philadelphia, Pa.
1881. Nott, Frederick J., 554 Madison Avenue, New York, N. Y.
1889. Nottingham, David M., Lansing, Mich.
1888. Nottingham, John C., Bay City, Mich.
1891. Nowell, John F., Greencastle, Pa.
1895. Noyes, Henry A., Pittsfield, Mass.
1894. Nye, James D., 1443 Champa Street, Denver, Col.

1882. Obetz, Henry L., 139 First Street, Detroit, Mich.
1896. O'Brien, Emilie Y., 1321 M Street, NW., Washington, D. C.
1872. OCKFORD, GEORGE M., 3 Oak Street, Ridgewood, N. J.
1889. O'Connor, Joseph T., 29 W. 45th Street, New York, N. Y.
1898. Ogden, Benj. Harvey, Germain Bank Bldg., St. Paul, Minn.
1897. Ogden, Edwin G., 451 West End Avenue, New York, N. Y.
1884. Olin, Rollin C., 110 Henry Street, W. Detroit, Mich.
1890. Olmstead, Austin F. Green Bay, Wis.
1893. Olmsted, Elmer D., Spokane, Wash.
1895. Opdyke, Levings A., 55 Clinton Avenue, Jersey City, N. J.
1893. Orleman, E. Louise, 32 Bagg Street, Detroit, Mich.
1859. ORME, FRANCIS H., 70 N. Forsyth Street, Atlanta, Ga.
1883. Ormes, Francis D., Jamestown, N. Y.
1899. Ostrander, Jasper Annis, Suisun, Cal.
1876. Ostrom, Homer I., 42 W. 48th Street, New York, N. Y.
1893. Owen, Charles S., 123 Main Street, Wheaton, Ill.
1898. Owen, Milton G., Lincoln, Ill.
1881. Packard, Horace, 362 Commonwealth Avenue, Boston, Mass.
1886. Packer, Henry E., 11 Pleasant Street, Woburn, Mass.
1895. Pagan, Frank C., Westerly, R. I.
1890. Paine, Clarence M., West Newton, Mass.

1850. PAINE HORACE M., West Newton, Mass.
1853. PAINE, JOSEPH P., Hotel Eliot, Roxbury, Mass.
1890. Paine, Richard K., Manitowoc, Wis.
1877. Paine, N. Emmons, West Newton, Mass.
1899. Palen, Gilbert J., Main St. and Walnut Lane, Germantown, Pa.
1891. Palmer, Anna Chipman, P. O. Box 19, Mattapan, Mass.
1892. Palmer, A. Worrall, 138 W. 81st Street, New York, N. Y.
1899. Palmer, George Henry, 606 Sutter Street, San Francisco, Cal.
1848. PALMER, MILES W., 235 E. 18th Street, New York, N. Y.
1892. Palmer, Owen A., Warren, O.
1897. Pannebaker, William Milton, 1103 Linden Avenue, Baltimore, Md.
1881. Pardee, Ensign B., 218 W. 34th Street, New York, N. Y.
1886. Pardee, Emily V. D., South Norwalk, Conn.
1895. Parker, Edwin Kenney, Littleton, N. H.
1897. Parker, Frank D., 101 Main Street, Akron, N. Y.
1891. Parker, James W., Warsaw, Ill.
1891. Parker, T. Elwood, Woodbury, N. J.
1896. Parkhurst, Alice S., 1410 Park Avenue, Baltimore, Md.
1883. Parsons, Anson, Springboro', Pa.
1899. Parsons, Clarice Johnston, 347 St. James' Avenue, Springfield, Mass.
1888. Parsons, Edgar C., Meadville, Pa.
1879. Parsons, Katherine, 914 Prospect Street, Cleveland, O.
1897. Parsons, Thomas, 33 S. Clinton Street, Rochester, N. Y.
1899. Partridge, Barton Scott, East Bloomfield, N. Y.
1873. PATCHEN, GEORGE H., 11 E. 59th Street, New York, N. Y.
1893. Patterson, Henry S., Elkader, Ia.
1899. Patterson, Joseph H., 306 Commerce Building, Kansas City. Mo.
1899. Patton, Arthur Douglas, 64 Crescent Street, Montreal, Canada.
1895. Patton, Hugh Matheson, 125 Mansfield Street, Montreal, Canada.
1895. Paul, C. Almon, Solon, Me.
1892. Paul, William Kendall, Belmont, N. Y.
1898. Paul, Irwin Nathaniel, Perry, Iowa.
1899. Paul, Willard A., 9 Standish Street, Dorchester, Boston, Mass.
1891. Pauly, Charles A., Odd Fellows' Temple, Cincinnati, O.
1899. Paxson, Oliver H., 123 N. 16th Street, Philadelphia, Pa.
1899. Payne, Clarence Niles, 273 State Street, Bridgeport, Conn.
1867. PAYNE, FREDERICK W., 162 Boylston Street, Boston, Mass.
1899. Payne, Hannah Jones, 630 Jackson Bldg., Chicago, Il.
1869. PAYNE, JAMES H., 344 Commonwealth Avenue, Boston, Mass.
1893. Payne, John Howard, Pierce Building, Copley Square, Boston, Mass.
1867. PEARSALL, SAMUEL J., Saratoga Springs, N. Y.
1892. Pearson, Mary M., 361 Massachusetts Avenue, Boston, Mass.
1895. Pease, Charles G., 101 W. 72d Street, New York, N. Y.
1895. Pease, Ella Gertrude, 214 Commonwealth Avenue, Boston, Mass.
1899. Peasley, Emma J., 70 Central Street, Somerville, Mass.
1897. Peck, Frederic, W., 42 Park Place, New Britain, Conn.
1898. Peck, Fred. Ed., 114 Main Street, Cynthiana, Ky.
1899. Peck, Fred Johnson, 44 Main Street, Ansonia, Conn.
1879. Peck, George B., 865 N. Main Street, Providence, R. I.
1894. Peck, Grant S., 1427 Stout Street, Denver, Col.
1899. Peddicord, Harper, 1122 Mount Street, Baltimore, Md.

1877. Penfield, Sophia, Danbury, Conn.
1870. PENNOYER, NELSON A., Kenosha, Wis.
1887. Percy, Frederick B., Brookline, Mass.
1887. Percy, George Emory, Salem, Mass.
1895. Perkins, Archie Elmer, South Ashburnham, Mass.
1895. Perkins, Charles Edwin, Warren, Mass.
1884. Perkins, Charles W., 403 Broad Street, Chester, Pa.
1890. Perkins, Ernest D., Ashland, Wis.
1899. Perkins, Nathaniel R., 1122 Adams Street, Boston, Mass.
1886. Perkins, Wesley B., Woodfords, Me.
1893. Perky, Lenore, 148 S. 12th Street, Lincoln, Neb.
1896. Perrine, James K. M., 413 Penn Avenue, Pittsburg, Pa.
1898. Peterson, Alfred Cookman, 135 Geary Street, San Francisco, Cal.
1899. Peterson, Pierson B., Honesdale, Pa.
1872. PETTENGILL, ELIZA F., 300 N. 10th Street, Philadelphia, Pa.
1897. Pettet, Isabella Margaretha, 308 E. 15th Street, New York, N. Y.
1899. Pettit, Evelyn Sarah, 1109 Third Avenue, New Brighton, Pa.
1867. PHILLIPS, ALBERT WILLIAM, Birmingham, Conn.
1897. Phillips, Lincoln, 1104 McMillan Street, Walnut Hills, Cincinnati, O.
1890. Phillips, R. Oliver, 257 Warburton Avenue, Yonkers, N. Y.
1896. Phillips, William A., 89 Euclid Avenue, Cleveland, O.
1899. Piatti, Virgil C., Greenwich Avenue, Greenwich, Conn.
1899. Pierce, Oscar F., 846 W. 22d Street, Chicago, Ill.
1891. Pierce, Willard Ide, 64 W. 126th Street, New York, N. Y.
1899. Pierron, Henry J., 438 Green Avenue, Brooklyn, N. Y.
1893. Pierson, Herman W., 100 State Street, Chicago, Ill.
1889. Pillsbury, Charles B., Paladio Building, Duluth, Minn.
1899. Piper, Fred. Smith, Massachusetts Avenue, Lexington, Mass.
1880. Pitcairn, Hugh, Hamburg, Germany.
1898. Plimpton, Wm. Merrill, Glenwood, Iowa.
1894. Pollock, Joseph Robert, Fort Worth, Tex.
1895. Pollock, Martha Hayes, 232 N. 2d Street, Harrisburg, Pa.
1885. Pomeroy, Harlan, 526 Prospect Street, Cleveland, O.
1887. Pope, Willis G., Keeseville, N. Y.
1890. Poppele, Charles F., Mount Pulaski, Ill.
1887. Porter, Eugene H., 181 W. 73d Street, New York, N. Y.
1894. Posey, Louis Plumer, 1435 Walnut Street, Philadelphia, Pa.
1899. Potter, Clarence Albert, Gowanda, N. Y.
1894. Powel, Milton, 163 W. 76th Street, New York, N. Y.
1899. Powell, Franklin, 241 E. 5th Street, Chester, Pa.
1888. Powell, William C., Bryn Mawr, Pa.
1894. Powers, A. Howard, 352 Massachusetts Avenue, Boston, Mass.
1874. PRATT, EDWIN H., 100 State Street, Chicago, Ill.
1867. PRATT, LEONARD, 520 N. 2d Street, San José, Cal.
1859. PRATT, LESTER M., Homer, N. Y.
1891. Pratt, Trimble, Media, Pa.
1898. Prentis, Percy L., Delphos, Iowa.
1891. Price, Eldridge C., 1012 Madison Avenue, Baltimore, Md.
1867. PRICE, ELIAS C., 1012 Madison Avenue, Baltimore, Md.
1876. Price, Emmor H., 400 Georgia Avenue, Chattanooga, Tenn.
1892. Prilay, John M., 83 Essex Street, Bangor, Me.

1889. Primm, John W., Woodstock, Ill.
1896. Probert, Clarence G., Bocas Deltoro, U. S. of Colombia, S. A.
1896. Pullen, Charles D., Mount Pleasant, Mich.
1895. Pulver, Hudson Josiah, 203 Main Street, Torrington, Conn.
1893. Pursell, James Perry, Easton, Pa.
1887. Putnam, William B., Wilder Avenue, Hoosick Falls, N. Y.
1899. Pyle, Harold Ward, 5 W. College Street, Oberlin, Ohio.

1891. Quay, George H., 122 Euclid Avenue, East Cleveland, Ohio.
1898. Quinby, Stillman Josiah, 318 So. 26th Street, Omaha, Neb.

1893. Raines, Taylor E., 6th and Broadway, Concordia, Kan.
1899. Ramsdell, Oscar Luman, 315½ Mitchell Street, Petoskey, Mich.
1885. Rand, John Prentice, 74 Main Street, Monson, Mass.
1881. Rankin, Egbert G., 226 W. 59th Street, New York, N. Y.
1865. RANKIN, JOHN S., cor. Roup and Howe Avenues, Pittsburg, Pa.
1899. Raue, C. Sigmund, 121 N. 10th Street, Philadelphia, Pa.
1896. Rauterberg, Arthur C., 510 Fifth Street, N. W., Washington, D. C.
1893. Ray, William L., 1214 Main Street, Kansas City, Mo.
1882. Ray, William R., 26 Collins Street, Melbourne, Australia.
1848. RAYMOND, JONAS C., 665 Sixteenth Street, Oakland, Cal.
1881. Reading, J. Herbert, 1811 Green Street, Philadelphia, Pa.
1888. Reading, Thomas, Hatboro', Pa.
1897. Redman, John Leifried, 1336 Spruce Street, Philadelphia, Pa.
1891. Reed, Clara D. W., 140 Church Street, Newton, Mass.
1897. Reed, William Emory, Washingtonville, N. Y.
1885. Reed, Robert G., Woonsocket, R. I.
1885. Reed, Thomas E., Middletown, O.
1894. Rees, Owen, 314 Erie Street, Toledo, O.
1888. Reeves, Joseph M., 1609 Mount Vernon Street, Philadelphia, Pa.
1893. Regan, Milton R., Eureka Springs, Ark.
1896. Reid, Robert G., 20 W. Seventh Street, Cincinnati, O.
1898. Reid, John Manley, Main Street, Centerview, Mo.
1897. Reilly, Walter E., Bowling Green, Mo.
1897. Reilly, William F., 1008 Madison Avenue, Covington, Ky.
1899. Reinhold, Hannah C., 761 W. 4th Street, Williamsport, Pa.
1898. Remington, Fred A., Sioux City, Iowa.
1883. Renninger, John S., Marshall, Minn.
1891. Reynolds, Warren U., 320 Manhattan Avenue, New York, N. Y.
1897. Rice, Alvin B., 117 Fairmount Avenue, Jamestown, N. Y.
1895. Rice, George Brackett, 229 Berkeley Street, Boston, Mass.
1899. Rice, Harry Edwin, 236 State Street, Springfield, Mass.
1892. Rice, Marvin S., Aurora, Ill.
1894. Rich, Frank, Toledo, Ohio.
1893. Rich, Frederick W., Riverside, Ill.
1886. Richard, George E., 44½ Bellevue Place, Chicago, Ill.
1891. Richards, George Herbert, 30 Highland Avenue, Orange, N. J.
1887. Richards, Llewellyn B., Oswego, N. Y.
1896. Richards, R. Milton, 25 Washington Avenue, Detroit, Mich.
1890. Richardson, Andrew J., 39 E. 83d Street, New York, N. Y.
1872. RICHARDSON, BRADBURY M., 151 Milton Street, Brooklyn, N. Y.

1895. Richardson, Edward Blake, Chelsea and Corey Streets, Everett, Mass.
1886. Richardson, Frank C., 601 Boylston Street, East Boston, Mass.
1897. Richardson, George Henry, c/o S. A. K., Patton, Cal.
1891. Richardson, George W., 138 E. 79th Street, New York, N. Y.
1893. Richardson, Oscar K., 303 Masonic Temple, Minneapolis, Minn.
1876. Richardson, William C., 411 Olive Street, St. Louis, Mo.
1899. Richert, Peter, Goessel, Kan.
1891. Ricker, Marcena S., 58 Lorimer Street, Rochester, N. Y.
1883. Ridge, Jonathan T., 1617 N. 7th Street, Philadelphia, Pa.
1897. Rieger, Joseph, 404 Central Avenue, Dunkirk, N. Y.
1887. Riggs, D. H., 1410 Eleventh Street, N. W., Washington, D. C.
1897. Rinehart, Stanley Marshall, 293 Western Avenue, Allegheny, Pa.
1893. Ripley, George H., Kenosha, Wis.
1889. Ripley, Martha G., 24 Tenth Street, South, Minneapolis, Minn.
1899. Ritch, Orlando S., 337A Macon Street, Brooklyn, N. Y.
1899. Rittenhouse, Jacob S., 38 S. 4th Street, Reading, Pa.
1897. Roberts, Arthur Augustine, Willsburg, W. Va.
1891. Roberts, Charles Wesley, 638 Washington Avenue, Scranton, Pa.
1892. Roberts, David J., New Rochelle, N. Y.
1881. Roberts, George F., 604 Dayton Building, Minneapolis, Minn.
1891. Roberts, Grace, 1109 K Street, N. W. Washington, D. C.
1892. Roberts, George Watson, 1672 Broadway, New York, N. Y.
1890. Roberts, Susan A., Downer's Grove, Ill.
1889. Roberts, Thomas Elmer, 144 South Oak Park Avenue, Chicago, Ill.
1897. Robertson, Herbert Miller, 64 Myrtle Street, Detroit, Mich.
1891. Robinson, Franklin E., Carthage, N. Y.
1899. Robinson, Nathaniel, 89 Halsey Street, Brooklyn, N. Y.
1866. Robinson, Samuel A., West New Brighton, N. Y.
1893. Roby, George F., Penacook, N. H.
1899. Rockwell, Alfred E. P., 248 Main Street, Worcester, Mass.
1890. Rockwell, Cortland B., 5401 Madison Avenue, Chicago, Ill.
1881. Rockwell, John A., 80 E. Concord Street, Boston, Mass.
1899. Rockwell, John Arnold, Jr., 3 Worcester Square, Boston, Mass.
1849. Rodman, William W., New Haven, Conn.
1891. Rodgers, L. D., 441 Dearborn Ave., Chicago, Ill.
1894. Rodgers, Rebecca W., 19 Marion Block, Indianapolis, Ind.
1886. Rollins, Charlotte A., Chelsea, Mass.
1897. Rolston, Rose Amanda, 52 High Street, Warren, O.
1895. Ross, Alice Idella, Whittier, Ia.
1893. Rotzell, Willett Enos, Narberth, Pa.
1882. Rosenberger, Abraham S., Covington, O.
1886. Rounsevel, C. Sedgwick, 211 Main Street, Nashua, N. H.
1894. Rowe, Alice Eliza, 177 State Street, Springfield, Mass.
1891. Royal, George, 505 Walnut Street, Des Moines, Ia.
1897. Royal, T. Cook, 101 Milton Avenue, Ballston Spa, N. Y.
1897. Rudderow, Edward Douglas, 233 W. 83d Street, New York, N. Y.
1890. Rumsey, Charles Leslie, 812 Park Avenue, Baltimore, Md.
1875. Runnels, Moses T., 912 Walnut Street, Kansas City.
1873. Runnels, Orange S., 203 N. Meridian Street, Indianapolis, Ind.
1887. Runnels, Sollis, 38 E. Ohio Street, Indianapolis, Ind.
1880. Rushmore, Edward, Plainfield, N. J.
1880. Russegue, Henry E., 93 Farmington Avenue, Hartford, Conn.

1892. Russell, H. Everett, 30 E. 74th Street, New York, N. Y.
1890. Russell, Henry A., West Superior, Wis.
1890. Rust, Edwin G., 29 Euclid Avenue, Cleveland, O.
1889. Rutledge, Samuel W., Grand Forks, N. Dakota.

1891. Sage, Frederick H., Middletown, Conn.
1892. Sage, Norman L., 680 Twenty-fourth Street, Detroit, Mich.
1869. SAGE, WILLIAM H., New Haven, Conn.
1899. Sager, Cyril Wickfield, 108 W. Main Street, Titusville, Pa.
1894. Salisbury, Samuel Scott, Bradbury Building, Los Angeles, Cal.
1896. Sanborn, Emma M. E., 4 Morton Street, Andover, Mass.
1860. SANDERS, JOHN C., 608 Prospect Street, Cleveland, O.
1884. Sanders, J. Kent, 101 Colonial Arcade, Cleveland, O.
1890. Sanders, Orren B., 358 Commonwealth Avenue, Boston, Mass.
1867. SANFORD, CHARLES E., Bridgeport, Conn.
1895. Sanger, Henry Mortimer, 1040 Westminster Street, Providence, R. I.
1871. SARTAIN, HARRIET J., 212 West Logan Square, Philadelphia, Pa.
1867. SAWIN, ISAAC W., 582 Broadway, Providence, R. I.
1890. Sawtelle, Benjamin A., Norfolk, Conn.
1893. Sawyer, Charles E., Marion, O.
1898. Sawyer, Eugene W., Woodward, Oklahoma Ter.
1899. Sawyer, Willis Herbert, The Peabody, Ashmont Street, Boston, Mass.
1867. SCALES, EDWARD P., Newton, Mass.
1892. Schantz, M. Margaret Hassler, 402 N. 5th Street, Reading, Pa.
1899. Schollenberger, Lewis A., 637 Walnut Street, Reading, Pa.
1894. Schenck, Herbert Dana, 241 McDonough Street, Brooklyn, N. Y.
1875. Schley, James Montfort, 32 W. 49th Street, New York, N. Y.
1892. Schmucker, F. R., 228 N. 5th Street, Reading, Pa.
1897. Schneider, Adolph Benedict, 381 Jennings Avenue, Cleveland, O.
1894. Schneider, S. Newton, 210 Dearborn Avenue, Chicago, Ill.
1893. Schoonover, William Edward, Greenville, Pa.
1898. Schorr, Edward, Garden City, Mo.
1894. Schrader, Charles A., 1071 Sixth Street, San Diego, Cal.
1892. Schulze, Carl Andrew, 49 E. Main Street, Columbus, O.
1891. Schumann, Carl, Delhi, N. Y.
1891. Schwenk, Clayton S., 1319 Jefferson Street, Philadelphia, Pa.
1872. SCOTT, CHESTER W., Lawrence, Mass.
1895. Scott, Cyrus W., 90 Main Street, Andover, Mass.
1898. Scott, James Randolph, Malvern, Iowa.
1886. Scott, William H., 104 W. 44th Street, New York, N. Y.
1897. Sears, M. Maywood, 95 S. Main Street, Ann Arbor, Mich.
1891. Seibert, William A., Easton, Pa.
1897. Seip, Charles Lewis, 299 Union Street, New Bedford, Mass.
1869. SEIP, CHRISTIAN P., 636 Penn Avenue, Pittsburg, Pa.
1895. Seitz, William Clinton, Glen Rock, Pa.
1897. Seward, Frederick W., Main Street, Goshen, Orange County, N. Y.
1894. Seward, John Perry, 113 W. 85th Street, New York. N. Y.
1847. SHACKFORD, RUFUS, Portland, Me.
1899. Shallcross, Isaac G., 1617 Arch Street, Philadelphia, Pa.
1879. Shannon, Samuel F., Jacobson Building, Denver, Col.
1895. Shapleigh, Alfred Lindsay, 38 Pleasant Avenue, Worcester, Mass.

1892. Sharetts, Upton A., Frederick, Md.
1895. Sharpless, Edward S., 1329 N. 12th Street, Philadelphia, Pa.
1894. Shaw, John Cook, 23 S. Sixth Street, New Bedford, Mass.
1895. Shaw, John Joseph, 14 Brewster Street, Plymouth, Mass.
1867. SHEARER, THOMAS, 345 N. Charles Street, Baltimore, Md.
1890. Shearer, Thomas L., 345 N. Charles Street, Baltimore, Md.
1882. Shears, George F., 3130 Indiana Avenue, Chicago. Ill.
1870. SHELDON, JAY W., 402 Warren Street, Syracuse, N. Y.
1893. Shellenberger, Charles Nell, 1831 Wallace Street, Philadelphia, Pa.
1886. Shelton, George G., 521 Madison Avenue, New York, N. Y.
1895. Shepard, George Andrew, 1672 Broadway, New York, N. Y.
1891. Shepard, Jessie, 21 Irving Place, Buffalo, N. Y.
1889. Shepard, William A., Colorado Springs, Col.
1898. Sheridan, Wm. M., Florence, Col.
1859. SHERMAN, JOHN H., 534 Broadway, Boston, Mass.
1899. Sherman, James Turner, 29 Virginia Street, Boston, Mass.
1894. Sherman, Irving Prescott, 114 W. 44th Street, New York, N. Y.
1875. Sherman, Lewis, 171 Wisconsin Street, Milwaukee, Wis.
1889. Sherman, Nancy B., Kalamazoo, Mich.
1879. Sherman, Sarah E., 11 Barton Square, Salem, Mass.
1897. Sherwood, Bradford Wykoff, 1117 S. Salina Street, Syracuse, N. Y.
1882. Sherwood, Herbert A., Warren, O.
1899. Shinn, Charles T., 17 E. Penn Street, Norristown, Pa.
1871. SHIVERS, BOWMAN H., Haddonfield, N. J.
1898. Shoemaker, Chas. A., 503 S. Eleventh Street, Lincoln Neb.
1899. Shoemaker, Daniel W., 1924 Green Street, Philadelphia, Pa.
1899. Short, Zuber N., 428 Central Avenue, Hot Springs, Ark.
1899. Shower, George T., 421 Rowland Avenue, Baltimore, Md.
1891. Shreve, Joseph, Burlington, N. J.
1899. Siegfried, John P., 58 Center Street, Ashtabula, Ohio.
1899. Silbernagel, Chas. Edward, 657 N. High Street, Columbus, Ohio.
1897. Simmons, Clarence W., 1628 N. 18th Street, Philadelphia, Pa.
1881. Simmons, Daniel, 1188 Dean Street, Brooklyn, N. Y.
1899. Simmons, Harry Benge, 18 Market Space, Chestertown, Md.
1888. Simmons, Silas S., Susquehanna, Pa.
1881. Simon, Samuel H., 191 Garfield Place, Brooklyn, N. Y.
1899. Simpson, Edwin D., 320 W. 115th Street, New York, N. Y.
1894. Simpson, William, 142 N. 3d Street, San José, Cal.
1896. Sigrist, Christopher W., 31 S. Fifth Street, Columbus, O.
1896. Sigrist, Philip H., E. High Street, New Philadelphia, O.
1896. Sinclair, Duncan J., 450 Dundas Street, Woodstock, Ont.
1896. Sinclair, Malcolm C., 124 Sheldon Street, Grand Rapids, Mich.
1854. SISSON, EDWARD R., New Bedford, Mass.
1889. Skiles, Hugh P., 963 W. Monroe Street, Chicago, Ill.
1853. SKILES, FRANCIS W., Suffolk, Va.
1889. Skinner, Scott W., Le Roy, N. Y.
1883. Slaught, James E., Warsaw, N. Y.
1891. Sleght, Bevier H. B., 31 Lincoln Park, Newark, N. J.
1896. Slocomb, George A., 804 Main Street, Worcester, Mass.
1876. Slough, Frank J., Allentown, Pa.
1888. Slough, William C. J., Emaus, Pa.

1897. Small, Charles Kendall, Oakland, Cal.
1894. Smedley, Charles Davis, Wayne, Pa.
1897. Smedley, Isaac G., 1705 Arch Street, Philadelphia, Pa.
1899. Smilie, Nathan, 4624 Chester Avenue, Philadelphia, Pa.
1873. SMITH, CHESTER, Portland, Mich.
1899. Smith, Conrad, 279 Dartmouth Street, Boston, Mass.
1896. Smith, Charles C., Bedford, Mich.
1896. Smith, Dean T., 302 N. Elm Avenue, Jackson, Mich.
1896. Smith, Dudley, 1834 South Logan Square, Philadelphia, Pa.
1893. Smith, Espy L., 974 W. Polk Street, Chicago, Ill.
1899. Smith, Francis A., 18 So. 4th Street, Zanesville, O.
1895. Smith, Frederick R., 400 E. Main Street, Rochester, N. Y.
1891. Smith, George R., Dover, N. H.
1860. SMITH, HENRY M., 288 St. Nicholas Avenue, New York, N. Y.
1882. Smith, Julia Holmes, 100 State Street, Chicago, Ill.
1896. Smith, Mark H., Peavland, Tex.
1887. Smith, Melvin D., Middlebury, Vt.
1885. Smith, Norman Pitt, Paris, Ill.
1893. Smith, Orrin L., 47th Street and Greenwood Avenue, Chicago, Ill.
1890. Smith, Sarah, Council Bluffs, Ia.
1886. Smith, Sarah N., Stillwater, N. Y.
1869. SMITH, ST. CLAIR, 25 W. 50th Street, New York, N. Y.
1860. SMITH, T. FRANKLIN, 264 Lenox Avenue, New York, N. Y.
1889. Smith, Wilson A., 11014 Walker Avenue, Morgan Park, Ill.
1894. Smith, Winfield Scott, 601 Boylston Street, Boston, Mass.
1894. Smythe, Samuel Scales, cor. California and 17th Streets, Denver, Col.
1891. Snader, Edward R., 140 N. 20th Street, Philadelphia, Pa.
1894. Snow, Henry, Norwood, O.
1887. Snyder, Edward E., Binghamton, N. Y.
1898. Snyder, M. B., Council Bluffs, Iowa.
1898. Snyder, Melancthon B., 121 S. 7th Street, Council Bluffs, Ia.
1898. Snyder, Susan McGlaughlin, 121 S. Seventh St., Council Bluffs, Ia.
1897. Sommer, Henry Otto, 330 A Street, S. E., Washington, D. C.
1891. Sooy, Walter C., 1913 Pacific Avenue, Atlantic City, N. J.
1897. Southall, Edward W., Geneseo, N. Y.
1899. Southgate, Robert W., 2 Commonwealth Avenue, Boston, Mass.
1871. SOUTHWICK, AUGUSTUS B., 107 West Liberty Street, Rome, N. Y.
1888. Southwick, George R., 31 Massachusetts Avenue, Boston, Mass.
1899. Spalding, Harry O., 519 Beacon Street, Boston, Mass.
1869. SPALDING, HENRY E., "The Cluny," Boston, Mass.
1895. Spalding, Julia H., 39 N. Main Street, Cortland, N. Y.
1892. Spalding, Samuel H., Hingham, Mass.
1859. SPARHAWK, GEORGE E. E., Burlington, Vt.
1899. Spencer, Annie Whitney, 25 Batavia Avenue, Batavia, Ill.
1895. Spencer, George Frederick Allen, 40 Church Street, Ware, Mass.
1891. Spencer, William, 1820 Chestnut Street, Philadelphia, Pa.
1897. Spencer, William Francis, Geneseo, Ill.
1875. Spinney, Andrew B., Reed City, Mich.
1898. Spooner, Henry Miner, Elyria, Ohio.
1887. Spoor, David E., North Granville, N. Y.
1893. Sprague, Charles G., Beatrice, Neb.

1892. Spranger, Michael J., Detroit, Mich.
1882. Spreng, Theodore F. H., Sioux City, Ia.
1895. Squire, Abiram F., 38 Catherine Street, Newport, R. I.
1895. Stafford, Walter W., 101 Twenty-fourth Street, Chicago, Ill.
1897. Stambach, Ida V., 1509 State Street, Santa Barbara, Cal.
1895. Stanton, Nathaniel Greene, 9 Kay Street, Newport, R. I.
1899. Starcke, Andrew H., 639 Kansas Avenue, Kansas City, Kan.
1891. Stark, Clinton E., Norwich, Conn.
1890. Starr, Pearl, Bellevue, Pa.
1897. Starry, Clark N., Louisburg, Kan.
1892. Stauffer, Alvin Packer, Hagerstown, Md.
1897. Stearns, George Raynolds, 207 Linwood Avenue, Buffalo, N. Y.
1896. Stearns, John S., 1425 Rhode Island Ave., N. W., Washington, D. C.
1891. Stearns, Solomon S., 1425 Rhode Island Ave., N. W., Washington, D. C.
1892. Stearns, William M., 34 Washington Street, Chicago, Ill.
1892. Steddon, Charles, Monroe, O.
1899. Stenhouse-Goodrich, A. Amelia, 7142 Emerald Avenue, Chicago, Il.
1889. Stephens, Aaron M., 431 Fourth Street, Red Wing, Minn.
1892. Stephens, James Arthur, 1350 Euclid Avenue, Cleveland, O.
1898. Stephenson, Benj. Swift, 49 Kirk Street, Lowell, Mass.
1893. Stem, Henry L., Union City, Pa.
1896. Sterling, Charles F., 396 Jefferson Avenue, Detroit, Mich.
1892. Stevens, David D., 67 W. 49th Street, New York, N. Y.
1896. Stevens, Mary T., 6 Adams Avenue, W. Detroit, Mich.
1896. Stevens, Rollin H., 6 Adams Avenue, W. Detroit, Mich.
1897. Stewart, Ambrose Cecil, P. O. Box 640, Durango, Col.
1896. Stewart, Francis E., 106 Charlotte Street, Detroit, Mich.
1897. Stewart, George Taylor, Metropolitan Hospital, New York, N. Y.
1891. Stewart, John W. G., Wabash, Ind.
1896. Stewart, Lincoln A., Brooksville, Me.
1894. Stewart, Mary E., Topeka, Kan.
1899. Stewart, William A., 1500 20th Street, N. W., Washington, D. C.
1895. Stiles, Charles Wallace, 17 Rawena Street, Ashmeat, Mass.
1890. Stiles, Frederick P., Sparta, Wis.
1895. Stiles, Hunter Bell, Grand Avenue, Gainesville, Tex.
1899. Stirk, James C., 4700 Chester Avenue, Philadelphia, Pa.
1879. Stone, Martha M., 104 Prospect Street, Cleveland, O.
1887. Stone, Waldo H., 133 Orms Street, Providence, R. I.
1895. Storer, John Hudson, 30 Edgecomb Avenue, New York, N. Y.
1882. Stout, Henry R., Jacksonville, Fla.
1892. Stratton, Wallace C., 2255 Mission Street, San Francisco, Cal.
1899. Straughn, Clinton C., Matawan, N. J.
1891. Strawbridge, Frank A., Sigourney, Ia.
1871. STREETS, JACOB G., Bridgeton, N. J.
1869. STREETER, JOHN W., 2001 Prairie Avenue, Chicago, Ill.
1889. Strickler, David A., 705 Fourteenth Street, Denver, Col.
1880. Strong, Thomas M., 176 Huntington Avenue, Boston, Mass.
1883. Stumpf, Daniel B., 693 Ellicott Street, Buffalo, N. Y.
1890. Sturtevant, Myron C., Morris, Ill.
1892. Stutz, J. A., Fort Wayne, Ind.

1892. Styles, Elmer S., New Britain, Conn.
1891. Suffa, George A., 229 Berkeley Street, Boston, Mass.
1897. Summer, Charles Oliver, 4 Park Street, Norwood, N. Y.
1881. Sumner, Charles R., 33 S. Clinton Street, Rochester, N. Y.
1887. Sutherland, John Preston, 295 Commonwealth Avenue, Boston, Mass.
1890. Sutherland, Quincy O., Janesville, Wis.
1890. Suttle, Henry J., Viroqua, Wis.
1880. Swain, Mary L., 2 Commonwealth Avenue, Boston, Mass.
1887. Swalm, Thomas W., Pottsville, Pa.
1895. Swan, Charles J., 34 Washington Street, Chicago, Ill.
1896. Swartwout, Frank A., 810 Eleventh Street, N.W., Washington, D. C.
1879. Swartz, J. Ross, Harrisburg, Pa.
1899. Sweet, Clara M., 2 Maple Street, Springfield, Mass.
1898. Sweet, E. C., 70 State Street, Chicago, Ill.
1887. Swett, Emily F., Medina, N. Y.
1897. Swift, Arthur Wesley, 501 State Street, Belvidere, Ill.
1891. Swormstedt, Lyman B., 1455 Fourteenth St., N. W., Washington, D. C.
1895. Sylvester, Stephen Alden, Beacon Street, Newton Centre, Mass.

1888. Talbot, George H., Newtonville, Mass.
1853. Talbot, I. Tisdale, 687 Boylston Street, Boston, Mass.
1890. Talbot, Winthrop Tisdale, 687 Boylston Street, Boston, Mass.
1874. Talcott, Selden H., Middleton, N. Y.
1890. Talmage, Alonzo L., Waterloo, N. Y.
1899. Talmage, Samuel, 22 Schermerhorn Street, Brooklyn, N. Y.
1897. Taylor, Alfred H., 485 H Street, S. W., Washington, D. C.
1898. Taylor, Edwin A., 100 State Street, Chicago, Ill.
1875. Taylor Esther W., 15 E. Cottage Street, Boston, Mass.
1882. Taylor, Theodore H., Evansville, Ind.
1892. Teets, Charles E., 37 W. 39th Street, New York, N. Y.
1894. Tennant, Chauncey E., 2061 Curtis Street, Denver, Col.
1875. Terry, Marshall O., 196 Genesee Street, Utica, N. Y.
1889. Thatcher, John Thomas, Oregon, Mo.
1899. Theilmann, Emil, Fulton, Mo.
1899. Thomas, Arthur E., 3200 Indiana Avenue, Chicago, Ill.
1890. Thomas, Charles H., 427 Broadway, Cambridge, Mass.
1891. Thomas, Charles H., 1312 N. Charles Street, Baltimore, Md.
1875. Thomas, Charles M., 1623 Arch Street, Philadelphia, Pa.
1887. Thome, Arthur G., 133 Lincoln Avenue, Chicago, Ill.
1898. Thomasson, John Clay, 214 Main Street, Georgetown, Ky.
1888. Thompson, Charles S. W., Helena, Mont.
1887. Thompson, James Henry, 515 Penn Avenue, Pittsburg, Pa.
1890. Thompson, Jay J., 707 Marshall Field Building, Chicago, Ill.
1867. Thompson, John H., 36 E. 30th Street, New York, N. Y.
1887. Thompson, Landreth W., 1701 Green Street, Philadelphia, Pa.
1891. Thompson, Mark M., 805 W. Monroe Street, Chicago, Ill.
1867. Thompson, Virgil, 56 W. 21st Street, New York, N. Y.
1891. Thompson, Will Sylvester, 134 State Street, Augusta, Me.
1895. Thurber, Emily M., 170 Broad Street, Providence, R. I.
1899. Tindall, Van R., 323 Reed Street, Philadelphia, Pa.
1887. Tobey, Walter Henry, 173 Newbury Street, Boston, Mass.

1897. Tomlin, Richard Elmer, 2057 N. 8th Street, Philadelphia, Pa.
1891. Tomlinson, William H., 44 E. Walnut Lane, Germantown, Phila., Pa.
1885. Tompkins, Albert H., 20 Seavern's Ave., Jamaica Plain, Boston, Mass.
1879. Tooker, Robert N., 263 Dearborn Avenue, Chicago, Ill.
1891. Townsend, Irving, 67 W. 36th Street, New York, N. Y.
1890. Treat, Charles R., Jr., Sharon, Wis.
1899. Trew, Bartus, 315 Paca Street, Baltimore, Md.
1896. Triem, Peter E., cor. Main and Madison Streets, Manchester, Ia.
1888. Trotter, Richard R., 189 Warburton Avenue, Yonkers, N. Y.
1888. Tucker, Genevieve, Pueblo, Col.
1892. Tuller, John J., 1931 Chestnut Street, Philadelphia, Pa.
1899. Tupper, John Darrow, Westport, Mass.
1894. Turbin, Louis M., 103 Randolph Street, Chicago, Ill.
1896. Turner, Estelle.
1892. Turner, Maurice W., 127 Harvard Street, Brookline, Mass.
1896. Tuthill, Frank S., Concord, Mich.
1891. Tuttle, Edward G., 61 W. 51st Street, New York, N. Y.
1895. Tuttle, Walter, Court Street, Exeter, N. H.
1881. Tytler, George E., 113 W. 126th Street, New York, N. Y.

1881. Uebelacker, Armin E., 109 South Street, Morristown, N. J.
1891. Ullery, Arthur O., Niles, Mich.
1892. Upham, Ella Prentiss, Asbury Park, N. J.

1897. Valentine, Richard K., 33 Eighth Avenue, Brooklyn, N. Y.
1889. Van Baun, William W., 1402 Spruce Street, Philadelphia, Pa.
1899. Van Delinder, Effie M., 556 Public Avenue, Beloit, Wis.
1887. Van Denburg, Martin W., 107 Union Avenue, Mount Vernon, N. Y.
1889. Van den Burg, William H., 32 W. 49th Street, New York, N. Y.
1895. Vander Burgh, David W., 320 Rock Street, Fall River, Mass.
1899. Van Derveer, George W., Garden Street, Mt. Holly, N. J.
1891. Van Deusen, Edwin H., 2105 Tioga Street, Philadelphia, Pa.
1899. Van Gunten, Fred W., 1432 Diamond Street, Philadelphia, Pa.
1894. Van Lennep, Gustave Adolphe, 1421 Spruce Street, Philadelphia, Pa.
1886. Van Lennep, William B., 1421 Spruce Street, Philadelphia, Pa.
1895. Van Loon, Arthur Burton, 50 Eagle Street, Albany, N. Y.
1873. Van Norman, Edgar V., 545 South Broadway, Los Angeles, Cal.
1870. Van Norman, Horace B., 289 Pearl Street, Cleveland, O.
1897. Vansant, John Thomas, Paris, Ky.
1897. Van Scoyoc, Lloyd G., 1103 Main Street, Kansas City, Mo.
1876. Van Vleck, Peter H., Sturgis, Mich.
1899. Varney, Edith Charles, 132 Broad Street, Lynn, Mass.
1896. Vehslage, Samuel H., 117 W. 43d Street, New York, N. Y.
1891. Ver Nooy, Charles, 146 W. 64th Street, New York, N. Y.
1858. Verdi, Tullio S., 11 Via delle Officine, Florence, Italy.
1895. Verges, W. F., 901 Prospect Avenue, Norfolk, Neb.
1889. Vidal, James W., Fargo, N. Dak.
1877. Vilas, Charles H., Central Music Hall, Chicago, Ill.
1891. Vischer, Carl V., 1429 Poplar Street, Philadelphia, Pa.
1881. Vishno, Charles, 361 Orange Street, New Haven, Conn.
1895. Von der Lühe, Amelia D. F., 801 Driggs Avenue, Brooklyn, N. Y.

1897. Wage, John F., 414 Seneca Street, Buffalo, N. Y.
1889. Wagner, Charles Henry, Faribault, Minn.
1893. Wagner, Philippina, Carson City, Nev.
1895. Wait, Oliver Babcock, 1230 S. 57th Street, Philadelphia, Pa.
1874. WAIT, PHŒBE J. B., 9th Avenue cor. 34th St., New York, N. Y.
1897. Waite, Kent B., 176 Euclid Avenue, Cleveland, O.
1895. Walker, Frank Clifford, 108 High Street, Taunton, Mass.
1888. Walker, James M., 1257 Broadway, Denver, Col.
1899. Walls, Charles Bruce, 134 So. Kedzie Avenue, Chicago, Ill.
1891. Walrad, Caleb B., 21 N. Perry Street, Johnstown, N. Y.
1893. Walter, Robert, Walter's Park, Pa.
1872. WALTER, ZIBA D., 107 W. Seventh Street, Pueblo, Col.
1874. WALTON, CHARLES E., N.W. cor 7th and John Streets, Cincinnati, O.
1883. Wanstall, Alfred, 921 Cathedral Street, Baltimore, Md.
1899. Ward, Charles Austin, 33 Court Street, Binghamton, N. Y.
1889. Ward, Florence N. Saltonstall, "The Wenban," 606 Sutter Street, San Francisco, Cal.
1883. Ward, James W., "The Wenban," 606 Sutter St., San Francisco, Cal.
1891. Ward, John McE., 1915 Susquehanna Avenue, Philadelphia, Pa.
1896. Ward, William R., Lyons Farms, N. J.
1891. Ware, Horace B., Scranton, Pa.
1869. WARE, WILLIAM G., Dedham, Mass.
1898. Waring, Guernsey P., 1106 Stewart Bldg., Chicago, Ill.
1898. Warner, Alton G., 194 Schermerhorn Street, Brooklyn, N. Y.
1873. WARREN, H. ANNA, 817 Bond Street, Dennison, Tex.
1872. WARREN, JOHN K., 68 Pleasant Street, Worcester, Mass.
1892. Washburn, Julia, 91 East High Street, Lexington, Ky.
1873. WATERS, MOSES H., 126 N. Seventh Street, Terre Haute, Ind.
1893. Watry, Joseph, Central Music Hall, Chicago, Ill.
1854. WATSON, WILLIAM H., 270 Genesee Street, Utica, N. Y.
1891. Watts, Pliny R., 1222 Tenth Street, Sacramento, Cal.
1893. Watts, William, 339 Huron Street, Toledo, O.
1899. Way, Frank E., Wahoo, Neb.
1894. Waylan, Julia Gould, 1832 Tioga Street, Philadelphia, Pa.
1894. Wayland, Charles A., Porter Building, San José, Cal.
1882. Weaver, Chandler, Fox Chase P. O., Philadelphia, Pa.
1899. Weaver, Harry Sands, 1621 Chestnut Street, Philadelphia, Pa.
1892. Webner, Henry W., 723 W. Lombard Street, Baltimore, Md.
1881. Webster, Frank P., 136 Freemason Street, Norfolk, Va.
1899. Webster, George C., 305 W. 7th Street, Chester, Pa.
1893. Webster, Samuel C., 99 High Street, Westerly, R. I.
1899. Wedelstaedt, von, George Sparr, San Mateo, Cal.
1891. Weirick, Clement A., 100 State Street, Chicago, Ill.
1888. Welch, George Oakes, Fergus Falls, Minn.
1892. Wellington, James Fremont, 64 E. 2d Street, Corning, N. Y.
1899. Wells, David Washburn, 391 Boylston Street, Boston, Mass.
1896. Wells, George S., Sistersville, W. Va.
1897. Wessel, P. H., 517 Fifteenth Street, Moline, Ill.
1859. WESSELHOEFT, CONRAD, 291 Boylston Street, Boston, Mass.
1867. WESSELHOEFT, WALTER, 391 Harvard Street, Cambridge, Mass.

1894. Wesselhoeft, William Fessenden, 851 Boylston Street, Boston, Mass.
1859. WESSELHOEFT, WILLIAM P., 176 Commonwealth Avenue, Boston, Mass.
1899. Westney, Alfred W., 1302 Pacific Avenue, Atlantic City, N. J.
1899. Westover, Henry W., 7th and Edward Streets, St. Joseph, Mo.
1858. WEST, EDWIN, 155 W. 12th Street, New York, N. Y.
1866. WETMORE, JOHN MCE., 41 E. 29th Street, New York, N. Y.
1898. Wheeler, Byron A., 1441 Stout Street, Denver, Col.
1898. Wherry, Curtis A., Ogden, Utah.
1882. Whipple, Alfred A., 637 Main Street, Quincy, Ill.
1899. Whitaker, Eugene E., Newport, Vermont.
1897. White, A. Grace, 87 Main Street, Bradford, Pa.
1893. White, John T., 29 S. State Street, Salt Lake City, Utah.
1887. White, Roland T., 273 Western Avenue, Allegheny, Pa.
1893. White, William Seymour, 70 State Street, Chicago, Ill.
1888. Whiting, Walter B., Malden, Mass.
1890. Whitman, Frank S., Belvidere, Ill.
1888. Whitmarsh, Henry A., Jackson Street, Providence, R. I.
1898. Whitmore, Frank Beach, Chester, Pa.
1896. Wiggers, Henry H., 529 Everett Street, Cincinnati, O.
1881. Wilberton, Lawrence G., Winona, Minn.
1891. Wilbur, Bertrand K., The Indian Training School, Sitka, Alaska.
1883. Wilcox, De Witt G., 568 Delaware Avenue, Buffalo, N. Y.
1886. Wilcox, Sidney Freeman, 51 W. 52d Street, New York, N. Y.
1897. Wilder, Carlton V., 4 West 5th Street, Atlantic, Iowa.
1895. Wilder, Guert Elmore, Masonic Temple, Sandusky, O.
1855. WILDER, LOUIS DE V., 55 W 33d Street, New York, N. Y.
1891. Wiley, Rebecca W., 160 Main Street, Laconia, N. H.
1899. Wilkins, David W., 5219 Washington Avenue, Chicago, Ill.
1886. Wilkins, George H., Palmer, Mass.
1896. Willard, Mary A., 142 W. High Street, Detroit, Mich.
1867. WILLARD, LEWIS H., 236 Western Avenue, Allegheny, Pa.
1893. Willard, William G., 544 Washington Boulevard, Chicago, Ill.
1895. Williams, Carl A., 8 Broad Street, New London, Conn.
1893. Williams, Frank Fay, 6 Goodrich Street, Canton, N. Y.
1891. Williams, Franklin E., Haddonfield, N. J.
1876. Williams, Nancy T., Winthrop Court, Augusta, Me.
1892. Williams, Perry C., Texarkana, Tex.
1898. Williams, Margaret Cowen, 2909 Portland Avenue, Louisville, Ky.
1876. Williamson, Alonzo P., 502 Nicollet Avenue, Minneapolis, Minn.
1872. WILLIAMSON, MATTHEW S., 1311 Arch Street, Philadelphia, Pa.
1894. Wilson, Charles Gaston, 203 Main Street, Clarksville, Tenn.
1859. WILSON, GROVE H., Meriden, Conn.
1876. Wilson, Joseph H., Bellefontaine, O.
1873. WILSON, MATTHEW T., 1176 Market Street, San Francisco, Cal.
1865. WILSON, THOMAS P., 1[illegible] Arlington Street, Cleveland, O.
1892. Winchell, Walter B., 137 Berkley Place, Brooklyn, N. Y.
1894. Winn, William John, 6 Ash Street, Cambridge, Mass.
1897. Winship, Annette Thomas, [illegible] Street, Cleveland, O.
1899. Winslow, Thomas Hartley, 2323 Fillmore Street, San Francisco, Cal.
1896. Wise, Julius C., 14 W. 12th Street, Kansas City, Mo.
1895. Wisner, Jacob Ward, Hagerstown, Md.

1899. Wiswall, Edward H., Washington Street, Wellesley, Mass.
1886. Wolcott, Edwin H., 57 S. Union Street, Rochester, N. Y.
1897. Wolcott, Roy C., St. Paris, Ohio.
1886. Wood, James C., 122 Euclid Avenue, Cleveland, O.
1895. Wood, Nelson Mervin, 72 High Street, Charlestown, Mass.
1860. WOOD, ORLANDO S., 521 N. Y. L. Building, Omaha, Neb.
1898. Woodburn, Wm., 609 Walnut Street, Des Moines, Iowa.
1898. Woodbury, Ernest I., 212 No. Fourth Street, Burlington, Iowa.
1870. WOODBURY, WILLIAM H., 22 Central Music Hall, Chicago, Ill.
1896. Woodruff, William L., N. W. cor. 2d Ave. and Jefferson St., Phœnix, Ariz.
1870. WOODWARD, ALFRED W., 130 Ashland Avenue, Chicago, Ill.
1869. WOODWARD, ALVIN M., 128 W. 13th Street, New York, N. Y.
1891. Woodward, George D., 211 Broadway, Camden, N. J.
1899. Woodward, Herbert B., 3034 Michigan Avenue, Chicago, Ill.
1895. Worcester, Frank D., Keene, N. H.
1888. Worcester, George W., Newburyport, Mass.
1895. Worcester, John Fonerden, 90 Church Street, Clinton, Mass.
1897. Worley, Howard A., Continental Block, Omaha, Neb.
1872. WORCESTER, SAMUEL, 31 Winter Street, Portland, Me.
1893. Worthen, Lewis J., Paola, Kan.
1860. WRIGHT, ANDREW R., 414 Elmwood Avenue, Buffalo, N. Y.
1891. Wright, George H., Forest Glen, Md.
1881. Wrisley, John A., Lakeport, N. H.
1881. Wyman, Edmond E., Manchester Centre, Vt.

1881. Yoder, Daniel, Satasauqua, Pa.
1892. Young, E. Weldon, 1023 Columbia Street, Seattle, Wash.
1887. Young, William Dickson, 29 Park Street, Buffalo, N. Y.
1896. Youngman, Maurice D., 1618 Pacific Avenue, Atlantic City, N. J.

1898. Ziegenfus, A. Frank, 1124 Wallace Street, Philadelphia, Pa.
1897. Zwetsch, J. D., Main Street, Gowanda, N. Y.

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1876. W. Albert Haupt, M.D., Chemnitz, Saxony, Germany.
1876. John W. Hayward, M.D., 61 Shrewsbury Road, Birkenhead, Cheshire, England.
1876. Arthur C. Clifton, M.D., 9 Park Parade, Northampton, England.
1876. Thomas Skinner, M.D., 6 York Place, London, W., England.
1879. Alfred C. Pope, M.D., Tring, Hertfordshire, England.
1882. A. Claude, M.D., 43 Rue de Caumartin, Paris, France.
1885. Edward Blake, M.D., 65 Seymour Street, Hyde Park, W., England.
1889. Mohendra Lal Sircar, M.D., Calcutta, India.
1889. B. N. Banerjee, M. D. 34½ Beadon Street, Calcutta, India.
1891. Alexander Villers, M.D., Dresden, Saxony, Germany.
1891. D. Dyce Brown, M.D., 29 Seymour St., Portman Sq., London, W., England.

1891. Leopold Salzer, M.D., 6 Loudon Street, Calcutta, India.
1892. Frederick Delosea, M.D., Frankfort, Germany.
1892. August Grünewald, M.D., Frankfort, Germany.
1893. Alfred E. Hawkes, M.D., Liverpool, England.
1893. J. Cavendish Molson, M.D., 10 Walsingham Terrace, West Brighton, England.
1893. Oscar Hansen, M.D., Copenhagen, Denmark.
1893. P. C. Majundar, M.D., Calcutta, India.
1893. ~~E. Vernon, M.D., To~~ronto, Ont.
1895. U. C. Bagchi, M.D., Calcutta, India.
1895. C. S. Kali, M.D., L.M.S., Calcutta, India.
1897. Franz Edwein, M.D., Mainz, Germany.
1897. E. Mersch, M. D., Brussels, Belgium.
1897. Ernest Nyssers, M.D., Brussels, Belgium.

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1876. ~~P. Jousset, M.D., Paris France.~~
1876. R. E. Dudgeon, M.D., 53 Montague Square, London, W., England.
1877. ~~Richard Hughes, M.D., Brighton,~~ England.
1892. Theodore Kafka, M.D., Karlsbad, Germany.

Honorary Associate Members.

1879. Mrs. Elizabeth Thompson, New York, N. Y.
1883. Prof. N. B. Wood, Cleveland, O.
1887. Mrs. Emily Talbot, Hotel Cluny, Boston, Mass.
1893. Madame Olga Bojanus, Samara, Russia.
1899. E. H. Bailey, Kansas City.

List of Members Classified by States.

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BIRMINGHAM, Jefferson County.
Ballard, Asa N., M.D., 2020 Third Avenue.
HUNTSVILLE, Madison County.
Duffield, Alfred M., M.D., 307 Clinton Street.

Alaska.

SITKA.
Wilbur, Bertrand K., M.D.

Arizona.

PHŒNIX, Maricopa County.
Woodruff, Wm. L., M.D., Second Ave. and Jefferson St.

Arkansas.

DEVALL BLUFF, Prairie County.
Mason, J. R., M.D.
EUREKA SPRINGS, Carroll County.
Regan, M. R., M.D.
HOT SPRINGS, Garland County.
Dake, Charles, M.D.
Dake, Frank B., M.D.
Hallman, Victor H., M.D., 606½ Central Avenue.
Short, Zuber Nathaniel, M.D., 428 Central Avenue.
LITTLE ROCK, Pulaski County.
Green, Wm. E., M.D., 202 Center Street.

Australia.

MELBOURNE.
Ray, Wm. R., M.D., 26 Collins Street.

California.

GARDEN GROVE, Orange County.
Chaffee, John D., M.D.
LOS ANGELES, Los Angeles County.
Bishop, Herbert M., M.D., 2627 Hoover Street.
Campbell, Eugene, M.D., 315 South Broadway.
DeDerkey, F. F., M.D., 311 West Third Street.
Hawkes, Wm. J., M.D., 315 South Broadway.
Johnson, Maria N., M.D., 963 Orange Street.

Kirkpatrick, John C., M.D., 328 West Third Street.
Laird, F. F., M.D.
Salisbury, Samuel Scott, M.D., Bradbury Building.
Van Norman, Edgar Vincent, M.D., 545 South Broad Street.

MONROVIA, Los Angeles County.
Chamberlain, Myron H., M.D.

OAKLAND, Alameda County.
Crawford, Alex. K., M.D., Filbert and Twelfth Streets.
Hill, Robert L., M.D., 564 Fourteenth Street.
Raymond, Jonas C., M.D., 665 Sixteenth Street.
Small, Charles Kendall, M.D.

ONTARIO, San Bernardino County.
Campbell, Robert Alexander, M.D.

PASADENA, Los Angeles County.
Hodge, Jacob Sylvester, M.D., Raymond Ave. and Green Street.
Macomber, Henry Kirke, M.D.

PATTON, San Bernardino County.
Campbell, Merritt B., M.D.
Dolan, A. Stanley, M.D.
Richardson, George Henry, M.D.

POMONA, Los Angeles County.
Johnson, Thaddeus L., M.D.

SACRAMENTO, Sacramento County.
Watts, Pliny R., M.D., 1222 Tenth Street.

SAN DIEGO, San Diego County.
Docking, Thomas, M.D., 164 Boston Avenue.
Lewis, J. Perry, M.D., 28th St. and National Ave.
Schrader, Charles A., M.D., 1071 Sixth Street.

SAN FRANCISCO, San Francisco County.
Albertson, Jos. A., M.D., 119 Powell Street.
Ballard, Laura A. S., M.D., 610 Hyde Street.
Boericke, Wm., M.D., 1812 Washington Street.
Bryant, Edgar Reeve, M.D., 317 Powell Street.
Cameron, Ida B., M.D., 2653 Howard Street.
Canney, Frederick G., M.D., 606 Sutter Street
Currier, Christopher B., M.D., 921½ Geary Street.
Eckel, John, M.D., 2711 Sacramento Street.
French, Hayes C., M.D., Y. M. C. A. Building.
Goss, Alice Morgan, M.D., 606 Sutter Street.
Hurd, Laura B., M.D., 745 Guerrero Street.
Martin, Eleanor Frances, M.D., 606 Sutter Street.
Martin, George Henry, M.D., 606 Sutter Street.
Palmer, George Henry, M.D., 606 Sutter Street.
Peterson, Alfred C., M.D., 135 Geary Street.
Stratton, Wallace C., M.D., 2255 Mission Street.
Ward, Florence N. Saltonstall, M. D., 606 Sutter Street.
Ward, James W., M.D., 606 Sutter Street.
Wilson, Matthew T., M.D., 1170 Market Street.
Winslow, Thomas Hartley, M.D., 2323 Filmore Street.

SAN JOSÉ, Santa Clara County.
Keith, William E., M.D., Porter Building.
Pratt, Leonard, M.D., 520 North Second Street.

Simpson, William, M.D., 142 North Third Street.
Wayland, Charles A., M.D., Porter Building.
SAN MATEO, San Mateo County.
Wedelstaedt, George Sparr von, M.D.
SANTA ANNA, Orange County.
Howe, Willella, M.D.
SANTA BARBARA, Santa Barbara County.
Hatch, Philo L., M.D., 1901 San Pascual Street.
Stambach, Ida V., M.D., 1509 State Street.
SANTA CRUZ, Santa Cruz County.
Bennett, Ruth Park, M.D., Lincoln and Pacific Avenues.
SUISUM, Solano County.
Ostrander, Jasper Annis, M.D.

Canada.

AYLMER.
Clark, George F., M.D.
MONTREAL.
Grafton, Edgar Atheling, M.D., 6 Phillip Place.
Griffith, Alex. Randall, M.D., 535 Wellington Street.
McHarrie, William, M.D., 53 Prince Arthur Street.
Müller, Laura, M.D., 213 Stanley Street.
Patton, Arthur Douglas, M.D., 64 Crescent Street.
Patton, Hugh Mathewson, M.D., 125 Mansfield Street.
TORONTO.
Anderson, Jeremiah N., M.D., 5 College Street.
WINNIPEG.
Clark, Charles W., M.D., 21 Princess Street.
WOODSTOCK.
Sinclair, Duncan J., M.D., 450 Dundas Street.

Chili, South America.

IQUIQUE.
Hoover, Willis C., M.D.

Colorado.

CANNON CITY, Fremont County.
Goff, Sarah A., M.D., Harrison and Ninth Streets.
Howe, Warren D., M.D., 831 Main Street.
COLORADO SPRINGS, El Paso County.
Lawrence, George W., M.D., 5 N. Tejon Street.
DENVER, Arapahoe County.
Anderson, John Wylie, M.D., 1617 Steel Block.
Beeler, Margaret Hofer, M.D.
Brace, Charles C., M.D., 1427 Stout Street.
Burg, William S., M.D., 404 California Building.
Burnham, Norman G., M.D., 708 Fourteenth Street.
Burr, William Alton, M.D., 2010 Welton Street.
Cooke, Persifor Marsden, M.D., 1290 Race Street.
Couden, William Chase, M.D., 29 Eighteenth Avenue.
Harris, John W., M.D., 613 Seventeenth Street.

Irvine, Joseph Clinton, M.D., Steele Block.
Kehr, Samuel S., M.D., California Building.
King, Edward H., M.D., 729 Sixteenth Street.
King, Walter Joel, M.D., 2348 Champa Street.
Kinley, Joseph B., M.D., 1406 Champa Street.
Mastin, James William, M.D.
Morton, Edward Clarence, M.D., 2348 Champa Street.
Nye, James D., M.D., 1443 Champa Street.
Peck, Grant S., M.D., 1427 Stout Street.
Shannon, Samuel F., M.D., Jacobson Building.
Smythe, Samuel Scales, M.D., California and Seventeenth Streets.
Strickler, David A., M.D., 705 Fourteenth Street.
Tennant, Chauncey E., M.D., 2061 Curtis Street.
Walker, James M., M.D., 1257 Broadway.
Wheeler, Byron A., M.D., 1441 Stout Street.

DURANGO, La Plata County.
Stewart, Ambrose Cecil, M.D.

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Sheridan, W. M., M.D.

GREELEY, Weld County.
Mulford, Clarence H., M.D.

LONGMONT, Boulder County.
Clark, Edwin J., M.D.

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Compton, George William, M.D.

PUEBLO, Pueblo County.
Tucker, Genevieve, M.D.
Walter, Ziba D., M.D., 107 West Seventh Street.

Connecticut.

ANSONIA, New Haven County.
Peck, Fred. Johnson, M.D., 44 Main Street.

BIRMINGHAM, New Haven County.
Phillips, Albert William, M.D.

BRIDGEPORT, Fairfield County.
Gregory, Edward P., M.D., Lafayette, near State Street.
Hoag, Clitus S., M.D., 321 Lafayette Street.
Massinger, Omray Lester, M.D., 293 State Street.
Payne, Clarence Miles, M.D., 273 State Street.
Sanford, Charles E., M.D.

DANBURY, Fairfield County.
Penfield, Sophia, M.D.

GREENWICH, Fairfield County.
Piatti, Virgil C., M.D.

HARTFORD, Hartford County.
Case, Erastus E., M.D., 109 Ann Street.
Cole, Harlan Page, M.D., 135 Sigourney Street.
Hooker, Edward Beecher, M.D., 253 Main Street.
Russegue, Henry E., M.D., 93 Farmington Avenue.

MERIDEN, New Haven County.
Wilson, Grove H., M.D.
MIDDLETON, Middlesex County.
Sage, Frederick H., M.D.
MYSTIC, New London County.
Barber, Oscar M., M.D.
NEW BRITAIN, Hartford County.
Peck, Fred. W., M.D., 42 Park Place.
Styles, Elmer S., M.D.
NEW CANAAN, Fairfield County
Keeler, Charles B., M.D.
NEW HAVEN, New Haven County.
Cheney, Benjamin H., M.D., 45 Elm Street.
Rodman, William V., M.D., 165 York Street.
Sage, Henry P., M.D., 48 Howe Street.
Sage, William H., M.D., 48 Howe Street.
Vishno, Charles, M.D., 361 Orange Street.
NEW LONDON, New London County.
Allen, Albion H., M.D.
Williams, Carl A., M.D., 8 Broad Street.
NORFOLK, Litchfield County.
Sawtelle, Benjamin A., M.D.
NORWALK, Fairfield County.
Hitchcock, Dexter, M.D.
NORWICH, New London County.
Stark, Clinton E., M.D.
SOUTH NORWALK, Fairfield County.
Pardee, Emily V. D., M.D.
STAFFORD SPRINGS, Tolland County.
Nichols, G. Louis, M.D., Spring Street.
STAMFORD, Fairfield County.
Barnes, Frank A., M.D., 59 Summer Street.
Givens, Amos J., M.D., Stamford Hall.
TORRINGTON, Litchfield County.
Pulver, Hudson Josiah, M.D., 203 Main Street.
UNIONVILLE, Hartford County.
Newton, John Burwell, M.D.
WATERBURY, New Haven County.
Freeborn, Grant, M.D.
WILLIMANTIC, Windham County.
Colgrove, Charles H., M.D.

Delaware.

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Hoey, William F., M.D.
WILMINGTON, New Castle County.
Flinn, Irvine M., M.D., 409 West Eighth Street.
Flinn, Lewis W., M.D., 510 West Ninth Street.
Kittinger, Leonard, M.D., 724 King Street.

Kittinger, Leonard Armour, M.D., 724 King Street.
Negendank, Augustus, M.D., 1112 Washington Street.
Negendank, Egmont T., M.D., 1112 Washington Street.

District of Columbia.

WASHINGTON.

Babbitt, Zeno B., M.D., 810 Eleventh Street, N.W.
Baldwin, Aaron, M.D., 1205 Eleventh Street, N.W.
Branson, J. Holmes, M.D., 1231 New Jersey Avenue, N.W.
Brosius, Mary Alice, M.D., 1101 K Street.
Burritt, Alice, M.D., 1129 Fourteenth Street.
Burritt, Martha Clark, M.D., 313 Fifth Street, S.E.
Choate, Rufus, M.D., 3267 O Street, N.W.
Custis, George W. N., M.D., 112 East Capitol Street.
Custis, J. B. Gregg, M.D., 912 Fifteenth Street.
Custis, Marvin A., M.D., 634 East Capitol Street.
Davis, Charles A., M.D., 1010 Fifteenth Street.
Dennison, Ira Warren, M.D., 1326 L Street, N.W.
Freer, James A., M.D., 1523 I Street, N.W.
Gardner, Franklin A., M.D., 1018 Fourteenth Street, N.W.
Garrison, Biddle Hiles, M.D.
Gilbert, Charles B., M.D., 1403 H Street, N.W.
Green, Julia M., M.D., 1738 N Street, N.W.
Harrison, Julia C., M.D., "The Cairo."
Hawxhurst, Howard H., M.D., 1333 L Street, N.W.
Hislop, Margaret, M.D., 313 M Street, N.W.
Jenkins, Ralph, M.D., 1732 Massachusetts Avenue, N.W.
King, William R., M.D., 1422 K Street, N.W.
Kingsman, Richard, M.D., 701 East Capitol Street.
Krogsted, Henry, M.D., 915 Sixteenth Street, N.W.
Lee, George Hyde, M.D., 1620 Fifteenth Street.
MacDonald, T. L., M.D., 1402 Massachusetts Avenue, N.W.
Moffit, Melvin M., M.D., 127 B Street, S.E.
O'Brien, Emilie Young, M.D., 1321 M Street, N.W.
Rauterberg, Arthur C., M.D., 510 Fifth Street, N.W.
Riggs, D. H., M.D., 1410 Eleventh Street, N.W.
Roberts, Grace, M.D., 1109 K Street, N.W.
Sommer, Henry Otto, M.D., 330 A Street, S.E.
Stearns, John S., M.D., 1425 Rhode Island Avenue, N.W.
Stearns, Solomon S., M.D., 1425 Rhode Island Avenue, N.W.
Stewart, William Alvah, M.D., 1500 Twentieth Street.
Swartwout, Frank A., M.D., 810 Eleventh Street, N.W.
Swormstedt, Lyman B., M.D., 1455 Fourteenth Street, N.W.
Taylor, Alfred H., M.D., 485 H Street, S.W.

Florida.

JACKSONVILLE, Duval County.

Stout, Henry R., M.D.

MIAMI, Dade County.

Graham, Walter S., M.D.

TAMPA, Hillsboro County.
Bruce, Orpha D. B., M.D., 1302 Florida Avenue.

Georgia.

ATLANTA, Fulton County.
Hicks, Susan M., M.D., "The Grand."
Lawshé, John Z., M.D., 116½ Peachtree Street.
Lukens, Merriken B., M.D., 161½ Edgewood Avenue.
Morse, Lucius Daniel, M.D.
Orme, Francis Hodgson, M.D., 70 North Forsyth Street.
Paine, Clarence M., M.D., 67 North Forsyth Street.
Paine, Horace M., M.D., 67 North Forsyth Street.

Germany.

HAMBURG.
Pitcairn, Hugh, M.D.
STUTTGART.
Haehl, Richard, M.D.

Illinois.

ATKINSON, Henry County.
Howlette, George Cleveland, M.D.
AURORA, Kane County.
Colwell, Charles Estabrook, M.D., 23 S. Lake Street.
Rice, Marvin S., M.D.
BATAVIA, Kane County.
Spencer, Annie Whitney, M.D.
BELLEVILLE, St. Clair County.
Loelkes, George, M.D., 202 South Jackson Street.
BELVIDERE, Boone County.
Swift, Arthur Wesley, M.D., 501 State Street.
Whitman, Frank S., M.D.
BLOOMINGTON, McLean County.
Neiberger, William Emory, M.D., 402 W. Jefferson Street.
CANTON, Fulton County.
Clemens, Frank L., M.D., 233 West Chestnut Street.
CENTRALIA, Marion County.
Dunn, Charles N., M.D., Broadway and Poplar Street.
Dunn, Helen S., M.D., Broadway and Poplar Street.
CHICAGO, Cook County.
Adams, Charles, M.D., Central Music Hall.
Allen, Henry C., M.D., 5142 Washington Avenue.
Andrews, Sarah W., M.D., 319 Bowen Avenue.
Aurand, Samuel Herbert, M.D., 720 Washington Boulevard.
Bailey, Edward Stillman, M.D., 3034 Michigan Avenue.
Barker, Clarence F., M.D., Ellis Avenue and Oakwood Boulevard.
Bell, James S., M.D., 2200 Congress Street.
Blackwood, Alexander L., M.D., 9151 Commercial Avenue.
Blouke, Milton Baker, M.D., 1222 West Washington Street.
Breyfogle, William L., M.D., 100 Washington Street.

Brown, Alice Barlow, M.D., 181 Dearborn Avenue.
Buffum, Joseph Howard, M.D., 34 Washington Street.
Canfield, Corresta T., M.D., 269 Lincoln Avenue.
Chislett, Howard Roy, M.D., 3030 Michigan Avenue.
Clapp, Catherine B., M.D., 6222 Woodlawn Avenue.
Cobb, Joseph P., M.D., 254 East Forty-seventh Street.
Costain, Thomas E., M.D., Pratt Sanitarium.
Cowperthwaite, Allen C., M.D., 717 Marshall Field Building.
Crutcher, Howard, M.D., Columbus Memorial Building.
Davison, William M. W., M.D., 1333 W. Lake Street.
Day, Leonidas A. L., M.D., 103 State Street.
Delamater, Nicholas B., M.D., 31 Washington Street.
Duffield, Alice Virginia, M.D., 5537 Madison Avenue.
Duncan, Thomas C., M.D., 100 State Street.
Ellis, Kate Walton, M.D., 4120 Lake Avenue.
Ely, Charles F., M.D., 34 Washington Street.
Everett, Frederick, M.D., 402 Centre Street.
Fellows, C. Gurnee, M.D., 70 State Street.
Fellows, H. Barton, M.D., 2969 Indiana Avenue.
Fisher, Charles E., M.D., 31 Washington Street.
Forbes, William O., M.D., 77 E. Thirty-ninth Street.
Foster, Richard N., M.D., 553 Jackson Boulevard.
Fuller, Charles G., M.D., 38 Central Music Hall.
Gatchell, Charles, M.D., 162 Thirtieth Street.
George, Edgar J., M.D., 31 Washington Street.
Gordon, Arthur H., M.D., 268 La Salle Avenue.
Graves, Kate I., M.D., 5663 Washington Avenue.
Grosvenor, Lemuel C., M.D., 185 Lincoln Avenue.
Grosvenor, Lorenzo N., M.D., 2714 Kenmore Avenue.
Grosvenor, Wallace Fahnestock, M.D., 1125 Sheffield Avenue.
Gross, James Eldredge, M.D., 95 Wabash Avenue.
Gwynne, Evan E., M.D., 556 Garfield Avenue.
Hadley, May, M.D., 94 Lincoln Avenue.
Halbert, Homer V., M.D., 4630 Greenwood Avenue.
Hall, Amos C., M.D., 1273 E. Seventy-fifth Street.
Halphide, Aloin C., M.D., 3458 Wabash Avenue.
Hedges, Albert P.,M.D., 754 E. Fullerton Avenue.
Hedges, Samuel Parker, M.D., 890 Evanston Avenue.
Hetherington, Judson Egbert, M.D., 1035 Warren Avenue.
Hobson, Sarah Matilda, M.D., 7528 Saginaw Avenue.
Honberger, Frank Henry, M.D., 3808 Indiana Avenue.
Hood, C. Todd, M.D., 31 Washington Street.
Jones, Mary H., M.D., Hyde Park.
Kahlke, Charles E., M.D., 3034 Michigan Avenue.
Karst, F. August, M.D., 636 Sedgwick Street.
Kippax, John R., M.D., 3154 Indiana Avenue.
Lambden, Frank W., M.D., 95 E. Chicago Avenue.
Leavitt, Sheldon, M.D., 148 Thirty-seventh Street.
Leipold, William Charles August, M.D., 3701 Cottage Grove Avenue.
Low, Joseph Hooker, M.D., 2458 Indiana Avenue.

Lowenthal, Louis, M.D., 1405 W. 103d Street.
Ludlam, Reuben, Jr., M.D., 2327 Michigan Avenue.
MacCracken, Mary E. Avery, M.D., 4327 Greenwood Avenue.
MacCracken, William P., M.D., 4327 Greenwood Avenue.
McBean, George Martin, M.D., 3326 Mt. Vernon Street.
McCullock, Carlton B., M.D., Cook County Hospital.
McGill, James Palmer, M.D., 4553 Forestville Avenue.
McIntyer, Edwin R., M.D., 386 N. Clark Street.
McKinney, Samuel P., M.D., 829 Warren Avenue.
Metcalf, Frank A., M.D., Forty-seventh Street and Kenwood Avenue.
Mitchell, Clifford, M.D., 70 State Street.
Morse, Lucius B., M.D., Cook County Hospital.
Newell, R. C., M.D., 70 State Street.
Payne, Hannah Jones, M.D., 630 Jackson Boulevard.
Pierce, Oscar F., M.D., 846 W. Twenty-second Street.
Pierson, Herman W., M.D., 6600 Gale Street.
Pratt, E. H., M.D., 100 State Street.
Reininger, Edward E., M.D., 353 S. Oakley Street.
Richard, George E., M.D., 44½ Bellevue Place.
Roberts, Thomas Elmer, M.D., 144 S. Oak Park Avenue.
Rockwell, Cortlandt B., M.D., 5401 Madison Avenue.
Rogers, L.D., M.D., 441 Dearborn Avenue.
Schneider, S. Newton, M.D., 210 Dearborn Avenue.
Shears, George F., M.D., 3130 Indiana Avenue.
Skiles, Hugh P., M.D., 963 W. Monroe Street.
Smith, Espy L., M.D., 974 W. Polk Street.
Smith, Julia Holmes, M.D., 100 State Street.
Smith, Orrin L., M.D., Fort-seventh Street and Greenwood Avenue.
Smith, Wilson A., M.D., 7022 Vernon Avenue.
Stafford, Walter W., M.D., 101 Twenty-fourth Street.
Stearns, William M., M.D., 34 Washington Street.
Stenhouse, A. Amelia Goodrich, M.D., 7142 Emerald Avenue.
Streeter, John W., M.D., 2001 Prairie Avenue.
Swan, Charles J., M.D., 34 Washington Street.
Sweet, E. C., M.D., 70 State Street.
Taylor, Edwin A., M.D., 100 State Street.
Thomas, Arthur E., M.D., 3200 Indiana Avenue.
Thome, Arthur G., M.D., 133 Lincoln Avenue.
Thompson, Jay J., M.D., 707 Marshall Field Building.
Thompson, Mark M., M.D., 805 W. Monroe Street.
Tooker, Robert N., M.D., 263 Dearborn Avenue.
Turbin, Louis M., M.D., 103 Randolph Street.
Vilas, C. H., M.D., Central Music Hall.
Walls, Charles Bruce, M.D., 134 S. Kedzie Avenue.
Waring, Guernsey P., M.D., 1106 Stewart Building.
Watry, Joseph, M.D., Central Music Hall.
Weirick, Clement A., M.D., 100 State Street.
White, William Seymour, M.D., 70 State Street.
Wilkins, David W., M.D., 5219 Washington Avenue.
Willard, William G., M.D., 544 Washington Boulevard.

Woodbury, William H., M.D., 22 Central Music Hall.
Woodward, Alfred W., M.D., 130 Ashland Avenue.
Woodward, Herbert B., M.D., 3034 Michigan Avenue.
CLINTON, DeWitt County.
Downey, F. Edgar, M.D.
DE KALB, De Kalb County.
Duncan, James Cation, M.D., 131 West Fourth Street.
DIXON, Lee county.
Blackman, Orville B., M.D.
DOWNER'S GROVE, Du Page County.
Roberts, Susan A., M.D.
DUNDEE, Kane County.
Kerch, Harry E., M.D.
DWIGHT, Livingston County.
Bergman, Nils, M.D.
EVANSTON, Cook County.
Bragdon, Merritt Caldwell, M.D., 1709 Chicago Avenue.
Hazeltine, Burton, M.D.
GALESBURG, Knox County.
Chase, Maurice J., M.D.
GENESEO, Henry County.
Spencer, William Francis, M.D.
GENOA, De Kalb County.
Mordoff, Charles H., M.D.
HARVEY, Cook County.
Franklin, William A., M.D.
JACKSONVILLE, Morgan County.
Goodrich, Morris H., M.D.
Halsted, Milton A., M.D.
LA GRANGE, Cook County.
Llewellyn, Henry S., M.D., Fifth and Harris Avenue.
LA SALLE, La Salle County.
Coutant, George F., M.D.
LERNA, Coles County.
Leitch, Robert Newton, M.D.
LEXINGTON, McLean County.
Estep, Charles S., M.D.
LINCOLN, Logan County.
Owen, Milton G., M.D.
MOLINE, Rock Island County.
Arp, August H., M.D.
Wessel, Peter H., M.D., 517 Fifteenth Street.
MORRIS, Grundy County.
Sturtevant, Myron C., M.D.
MOUNT PULASKI, Logan County.
Poppele, Charles F., M.D.
OAK PARK, Cook County.
Hendy, Clara A., M.D.
OTTAWA, La Salle County.
Bascom, Henry M., M.D., 727 Columbus Street.

Downs, James N., M.D., 724 Columbus Street.
PARIS, Edgar County.
Hunt, George H., M.D.
Smith, Norman Pitt, M.D.
PEORIA, Peoria County.
Davis, Franklin S., M.D., 201 Perry Avenue.
Kerr, Harlan T., M.D., 105 Perry Street.
QUINCY, Adams County.
Whipple, Alfred A., M.D., 637 Main Street.
RIVERSIDE, Cook County.
Rich, Frederick W., M. D.
ROCHELLE, Ogle County.
Gould, William W., M.D.
ROCKFORD, Winnebago County.
Maas, Elizabeth C., M.D., 129 North Main Street.
ROCK ISLAND, Rock Island County.
Bradford, Eli, M.D., 636 Eighteenth Street.
SPRINGFIELD, Sangamon County.
Frazee, Calvin A., M.D.
STERLING, Whiteside County.
Hill, Marion J., M.D., 507 Locust Avenue.
WARSAW, Hancock County.
Parker, James W., M.D.
WHEATON, Du Page County.
Owen, Charles S., M.D., 123 Main Street.
WOODSTOCK, McHenry County.
Primm, John W., M.D.

Indiana.

BLUFFTON, Wells County.
Fowler, Walter N., M.D.
CROWN POINT, Lake County.
Gibbs, James C., M.D.
ELKHART, Elkhart County.
Fisher, A. Leroy, M.D., 315 Pigeon Street.
EVANSVILLE, Vanderburg County.
Davis, Fielding L., M.D., 209 Locust Street.
Taylor, Theodore H., M.D.
FORT WAYNE, Allen County.
Bowen, George W., M.D., 232 East Washington Street.
Stutz, J. A., M.D.
GOSHEN, Elkhart County.
Kreider, Martin K., M.D.
GREENCASTLE, Putnam County.
Ayler, Amos E., M.D.
INDIANAPOLIS, Marion County.
Adams, H. Alden, M.D., 21 West Ohio Street.
Compton, J. Augustine, M.D.

George, William E., M.D., Market and Delaware Streets.
Haynes, J. R., M.D., 512 North Illinois Street.
Rogers, Rebecca W., M.D., 19 Marion Block.
Runnels, O. S., M.D., 203 North Meridian Street.
Runnels, Sollis, M.D., 38 East Ohio Street.

LEBANON, Boone County.
Coons, H. W., 96 East Pearl Street.

NEW ALBANY, Floyd County.
Erni, G. Oscar, M.D., 214 East Spring Street.

NOBLESVILLE, Hamilton County.
Harrell, Samuel, M.D., 96 North Tenth Street.

OXFORD, Benton County.
Hoag, James H., M.D.

TERRE HAUTE, Vigo County.
Waters, Moses H., M.D.,126 North Seventh Street.

WABASH, Wabash County.
Stewart, John W. G., M.D.

WESTFIELD, Iaporte County.
Martin, Francis V., M.D.

Iowa.

ALBIA, Monroe County.
King, Sylvester M., M.D.

ATLANTIC, Cass County.
Morse, Bertrand, M.D.
Wilder, Carleton V., M.D., 4 West Fifth Street.

BOONE, Boone County.
Martin, George Albert, M.D.

BURLINGTON, Des Moines County.
Woodbury, Ernest I., M.D., 212 North Fourth Street.

CEDAR FALLS, Blackhawk County.
Hausen, Andreas Schantz, M.D.

CEDAR RAPIDS, Linn County.
Cogswell, Charles Herbert, M.D., 65 Second Avenue.

CLERMONT, Fayette County.
Becker, Frederick, M.D.

CLINTON, Clinton County.
Blunt, Arthur W., M.D., 323 Fifth Avenue.

COUNCIL BLUFFS, Pottawattamie County.
Hanchett, Alfred P., M.D.
Montgomery, Phineas J., M.D., 217 Fourth Street.
Smith, Sarah, M.D.
Snyder, Susan M., M.D., 121 South Seventh Street.
Snyder, Melancthon B., M.D., 121 South Seventh Street.

CRESTON, Union County.
Myers, Amos, J., M.D.

DAVENPORT, Scott County.
Hoefle, Henry C., M.D., 314 Brady Street.

DELPHOS, Ringgold County.
Prentis, Percy L., M.D.

DES MOINES, Polk County.
Busenbark, Lucy M., M.D.
Drake, Joseph H., M.D., 826 West Fourth Street.
Eaton, Charles W., M.D., 420 Walnut Street.
Harris, Nellie R., M.D.
Linn, A. M., M.D., 605 Walnut Street.
Royal, George, M.D., 505 Walnut Street.
Woodburn, William, M.D., 609 Walnut Street.

DUBUQUE, Dubuque County.
Bray, Nicholas, M.D., 1140 Main Street.
Jackson, Edward R., M.D.

ELKADER, Clayton County.
Patterson, H. S., M.D.

FORT DODGE, Webster County.
Miner, Herbert Smith, M.D., 909 Central Avenue.

GLENWOOD, Mills County.
Plimpton, William H., M.D.

GRUNDY CENTRE, Grundy County.
Burns, Judson D., M.D.

INDEPENDENCE, Buchanan County.
Brooks, Caroline Frances, M.D.

IOWA CITY, Johnson County.
Gilchrist, James Grant, M.D., 215 College Street.
Hazard, Theodore Lincoln, M.D., 12 North Clinton Street.
Newberry, Frank J., M.D., 12 North Clinton Street.

JEFFERSON, Greene County.
Hoyt, Lucius F., M.D.

KEOKUK, Lee County.
Bancroft, Walton, M.D.
Hoyt, Mary O., M.D., 26 North Fourth Street.

LAKE CITY, Calhoun County.
Humphrey, Howard M., M.D.

MADRID, Boone County.
Brown, E. C., M.D., Second and State Streets.

MAGNOLIA, Harrison County.
Cutter, Charles E., M.D.

MALVERN, Mills County.
Scott, James R., M.D.

MANCHESTER, Delaware County.
Dittmer, Ernest G., M.D.
Triem, Peter E., M.D., Main and Madison Streets.

MARION, Linn County.
Hindman, David R., M.D.
Moorhead, James, M.D., 743 Twelfth Street.

MOUNT PLEASANT, Henry County.
Linn, Ellis Gregg, M.D.

OSAGE, Mitchell County.
Barrett, James W., M.D.
Miner, James B., M.D.

OSKALOOSA, Mahaska County.
Miller, Robert P., M.D.
PERRY, Dallas County.
Paul, Irvin N., M.D.
POSTVILLE, Allamakee County.
Becker, Frederick J., M.D.
SIGOURNEY, Keokuk County.
Strawbridge, Frank A., M.D.
SIOUX CITY, Woodbury County.
Hanchett, John L., M.D., 601 Jackson Street.
Hermann, John, M.D., 701 Jackson Street.
Spreng, T. F. H., M.D.
Remington, Fred. A., M.D.
SPENCER, Clay County.
Collester, Joseph C., M.D., 509 Main Street.
WALL LAKE, Sac County.
Hayden, Arthur S., M.D.
WEBSTER CITY, Hamilton County.
Drake, Franklin Joseph, M.D.
WHITTIER.
Ross, Alice Idella, M.D.

Italy.

FLORENCE.
Verdi, Tullio S., M.D., 11 Via delle Officine.

Kansas.

ATCHISON, Atchison County.
Johnson, George H. T., M.D.
CONCORDIA, Cloud County.
Raines, Taylor E., M.D., Sixth Street and Broadway.
EUREKA, Greenwood County.
Huss, John R., M.D.
EXCELSIOR SPRINGS.
McIntosh, James W., M.D.
GOESSEL, Marion County.
Richert, Peter, M.D.
KINGMAN, Kingman County.
Light, Jacob Wilbert, M.D.
LAWRENCE, Douglas County.
Gardner, Henry Seth, M.D.
LINCOLN, Lincoln County.
Cole, Sarah A., M.D.
LOUISBURG, Miami County.
Starry, Clark N., M.D.
MARION, Marion County.
Barrows, George S., M.D.
PAOLA, Miami County.
Worthen, Lewis J., M.D.

PARSONS, Labette County.
Bordman, E. W., M.D., 115 Central Avenue.
TOPEKA, Shawnee County.
Menninger, Charles Frederick, M.D., 727 Kansas Avenue.
Stewart, Mary E., M.D.
WASHINGTON, Washington County.
Gillstrop, H. Preston, M.D.

Kentucky.

BOWLING GREEN, Warren County.
Millsop, Sarah J., M.D.
CARLISLE, Nicholas County.
Dills, Malcoln, M. D.
COVINGTON, Kenton County.
Reilly, William F., M.D., 1008 Madison Avenue.
CYNTHIANA, Harrison County.
Peck, Frederick Ed., M.D., 214 Main Street.
FLEMINGSBURG, Fleming County.
Kehoe, Henry C., M.D.
GEORGETOWN, Scott County.
Thomasson, John C., M.D., 214 Main Street.
LEXINGTON, Fayette County.
Johns, Emory B., M.D., 24 East Second Street.
Washburne, Julia, M.D., 91 East High Street.
LOUISVILLE, Jefferson County.
Bryan, Joseph Temple, M.D., 120 West Chestnut Street.
Clokey, Allison A., M.D., Second and Chestnut Streets.
Coon, George S., M.D., 617 Fourth Street.
Mann, Jessie E., M.D., Fonda Block.
Williams, Margaret Cowen, M.D., 2909 Portland Avenue.
Murphy, Sarah A., M.D., 727½ Eighth Street.
MIDWAY, Woodford County.
Kasselmann, Harry C., M.D.
NEWPORT, Campbell County.
Fischback, Frederick W., M.D.
OWENTON, Owen County.
Keppel, Frederick Dudley, M.D.
PADUCAH, McCracken County.
Enbank, William Cicero, M.D., 306 Broadway.
PARIS, Bourbon County.
Vansant, John Thomas, M.D.
RICHMOND, Madison County.
Holton, Charles Smoot, M.D., 316 Main Street.

Louisiana.

NEW ORLEANS, Orleans County.
Aiken, John Gale, M.D., 1102 St. Charles Avenue.
Mayer, Charles R., M.D., 1032 St. Charles Avenue.

Maine.

AUGUSTA, Kennebec County.
Hill, W. Scott, M.D., 134 State Street.
Thompson, W. S., M.D., 134 State Street.
Williams, Nancy T., M.D., 14 Winthrop Place.
BANGOR, Penobscot County.
Fellows, William Edwin, M.D., 134 Hammond Street.
Jefferds, George P., M.D.
Prilay, John M., M.D., 83 Essex Street.
BELFAST, Waldo County.
Flanders, David P., M.D.
BROOKSVILLE.
Stewart, Lincoln A., M.D.
CASTINA, Hancock County.
Cushman, Mary Floyd, M.D., Main Street.
GARDINER, Kennebec County.
Heath, Gertrude Emma, M.D., 164 Water Street.
PORTLAND, Cumberland County.
Shackford, Rufus, M.D.
Worcester, Samuel, M.D., 31 Winter Street.
SAGO, York County.
Graves, S. P., M.D.
SKOWHEGAN, Somerset County.
Johnson, Cora May, M.D.
SOLON, Somerset County.
Paul, C. Almon, M.D.
WATERBOROUGH, York County.
Emery, John Taylor Gilman, 27 Main Street.
WOODFORDS, Cumberland County.
Perkins, Wesley B., M.D.

Maryland.

BALTIMORE, Baltimore County.
Barnard, James S., M.D., 2112 North Charles Street.
Brewster, Cora B., M.D., 1027 Madison Avenue.
Brewster, Flora A., M.D., 1221 Madison Avenue.
Chandlee, Henry, M.D., 704 West North Avenue.
Cole, Ezra, M.D., 1516 Mt. Royal Avenue.
Comstock, William C., M.D., 407 North Charles Street.
Evans, John A., M.D., 1918 Pennsylvania Avenue.
Evans, Henry J., M.D., Fayette and Carey Streets.
Hammond, Milton, M.D., 310 North Paca Street.
Janney, O. Edward, M.D., 837 North Eutaw Street.
Mark, Ella V., M.D., 940 Madison Avenue.
Morgan, William L., M.D., 202 West Franklin Street.
Panebaker, William Milton, M.D., 1103 Linden Avenue.
Parkhurst, Alice S., M.D., 1410 Park Avenue.
Peddicord, Harper, M.D., 1122 Monument Street.
Price, Eldridge C., M.D., 1012 Madison Avenue.
Price, Elias C., M.D., 1012 Madison Avenue.

Rumsey, Charles Leslie, M.D., 812 Park Avenue.
Shearer, Thomas, M.D., 345 North Charles Street.
Shearer, Thomas L., M.D., 345 North Charles Street.
Simmons, Harry Benge, M.D., 18 Market Place.
Shower, George Theodore, M.D., 421 Roland Avenue.
Thomas, Charles H., M.D., 1312 North Charles Street.
Trew, Bartus, M.D., 315 North Paca Street.
Wanstall, Alfred, M.D., 921 Cathedral Street.
Webner, Henry W., M.D., 723 West Lombard Street.

CHESTERTOWN, Kent County.
Dodd, Harry L., M.D.

FOREST GLEN, Montgomery County.
Wright, George H., M.D.

FREDERICK, Frederick County.
Burck, Lewis A., M.D., 17 East Second Street.
Sharetts, Upton A., M.D.
Goodell, Charles F., M.D., 19 East Patrick Street.

HAGERSTOWN, Washington County.
Wisner, Jacob Ward, M.D.
Stauffer, Alvin P., M.D.

INDEPENDENCE.
Boutin, Francis J., M.D.

ROCKVILLE, Montgomery County.
Andrews, William R., M.D.

Massachussetts.

ADAMS, Berkshire County.
Bond, Aaron John, M.D., 1 Center Street.

ANDOVER, Essex County.
Clarke, Henry L., M.D., 3 Punchard Avenue.
Sanborn, Emma M. E., M.D., 4 Morton Street.
Scott, Cyrus W., M.D., 90 Main Street.

ASHMEAT.
Stiles, Charles Wallace, 17 Rawena Street.

ATHOL, Worcester County.
Forbes, Charles Holt, M.D., 429 School Street.
Larkeque, Garrett B. B., M.D., 345 Main Street.

AUBURNDALE, Middlesex County.
Clarke, Mortimer Hall, M.D., 221 Auburn Street.

BOSTON, Suffolk County.
Abbott, Charles Sewell, M.D., 130 Huntington Avenue.
Appleton, Lucy, M.D., 160 W. Brookline Street.
Angell, Henry C., M.D., 16 Beacon Street.
Batchelder, Frederick P., M.D., 232 Massachusetts Avenue.
Bell, James B., M.D., 178 Commonwealth Avenue.
Bellows, Howard P., M.D., corner Boylston and Berkeley Streets.
Bender, Prosper, M.D., Exeter Chambers.
Boothby, Alonzo, M.D., 508 Commonwealth Avenue.
Boyd, Herbert D., M.D., 370 Columbus Avenue.
Briggs, Joseph Emmons, M.D., 204 Huntington Avenue.

Borroughs, Amelia, M.D., 480 Boylston Street.
Cahill, Eliza B., M.D., N.E. Conservatory of Music.
Calderwood, Samuel Herbert, M.D., 2512 Washington Street.
Childs, Helen S., M.D., 454 Centre Street, Jamaica Plain.
Cocke, James R., 24 Marlborough Street.
Coffin, John Lambert, M.D., 229 Berkeley Street.
Colby, Edward Porter, M.D., 845 Boylston Street.
Cross, Hiram B., M.D., 21 Seavern's Avenue, Jamaica Plain.
Culver, Jane Kendrick, M.D., 13 Arlington Street.
Cummings, M. Louisa, M.D., 178a Tremont Street.
Davis, Fred A., M.D., 80 Huntington Avenue.
Drake, Olin M., M.D., 70 Huntington Avenue.
Earl, George H., M.D., 18 Huntington Avenue.
Emerson, Nathaniel Waldo, M.D., 601 Boylston Street.
Farwell, Charles Luther, M.D., 384 Cambridge Street.
Flint, Almena J. Baker, M.D., 102 Huntington Avenue.
Fuller, Walter Tracy, M.D., 738 Dudley Street.
Gary, Clara Emerette, M.D., 546 Columbus Avenue.
Gooding, E. Jeanette, M.D., 223 W. Springfield Street.
Halsey, Frederick W., M.D., 272 Newberry Street.
Hill, Noble Hind, M.D., 35 Huntington Avenue.
Houghton, Neihard H., M.D., 845 Boylston Street.
Jackson, William L., M.D., 76 Dudley Street, Roxbury.
Johnson, Sara, M.D., "The Cluny," Copley Square.
Krauss, James, M.D., 439 Boylston Street.
Krebs, Francis H., M.D., 42 Union Park.
Mack, Helen Georgiana Flagler, M.D., 92 White Street.
Mann, Martha Elizabeth, M.D., 2 Commonwealth Avenue.
Marsh, Franklin P., M.D., 106 Tremont Street.
Miller, Lizabeth Dora, M.D., 12 Cordis Street.
Mosher, Mary E., M.D., 53 Blue Hill Avenue, Roxbury.
Kennedy, Alonzo L., M.D., 286 Newberry Street.
Packard, Horace, M.D., 362 Commonwealth Avenue.
Paine, Joseph P., M.D., Hotel Eliot, Roxbury.
Paul, Williard A., M.D., Standish Street, Dorchester.
Payne, Frederick W., M.D., 162 Boylston Street.
Payne, James H., M.D., 344 Commonwealth Avenue.
Payne, John Howard, M.D., Pierce Building, Copley Square.
Pearson, Mary M., M.D., 361 Massachusetts Avenue.
Pease, Ella Gertrude, M.D., 214 Commonwealth Avenue.
Perkins, Nathaniel R., M.D., 1122 Adams Street.
Powers, A. Howard, M.D., 352 Massachusetts Avenue.
Rice, George Brackett, M.D., 229 Berkeley Street.
Richardson, Frank C., M.D., 601 Boylston Street.
Rockwell, John A., M.D., 80 E. Concord Street.
Rockwell, John Arnold, Jr., M.D., 3 Worcester Square.
Sanders, Orren B., M.D., 358 Commonwealth Avenue.
Sanders, Orren S., M.D., 511 Columbus Avenue.
Sawyer, Willis Herbert, M.D., "The Peabody."
Sherman, John H., M.D., 534 Broadway.

Smith, Conrad, M.D., 279 Dartmouth Street.
Sherman, James Turner, M.D., 29 Virginia Street.
Smith, Winfield Scott, M.D., 601 Boylston Street.
Southwick, George R., M.D., 31 Massachusetts Avenue.
Spalding, Henry E., M.D., "The Cluny," Copley Square.
Spalding, Harry Osgood, M.D., 519 Beacon Street.
Strong, Thomas M., M.D., 176 Huntington Avenue.
Suffa, George A., M.D., 229 Berkeley Street.
Sutherland, John Preston, M.D., 295 Commonwealth Avenue.
Swain, Mary L., M.D., 2 Commonwealth Avenue.
Southgate, Robert W., M.D., 2 Commonwealth Avenue.
Talbot, Winthrope Tisdale, M.D., 687 Boylston Street.
Taylor, Esther W., M.D., 15 E. Cottage Street.
Tobey, Walter Henry, M.D., 173 Newbury Street.
Tompkins, Albert H., M.D., 20 Seavern's Avenue, Jamaica Plain.
Wells, David Washburne, 391 Boylston Street.
Wesselhoeft, Conrad, M.D., 291 Boylston Street.
Wesselhoeft, William Fessenden, M.D., 851 Boylston Street.
Wesselhoeft, William P., M.D., 176 Commonwealth Avenue.

BROCKTON, Plymouth County.
Brown, Daniel E., M.D., 95 Main Street.

BROOKLINE, Norfolk County.
Clapp, J. Wilkinson, M.D., corner St. Paul and Francis Streets.
Jones, Everett, M.D., 1618 Beacon Street.
Moore, J. Herbert, M.D.
Percy, Frederick B., M.D.
Turner, Maurice W., M.D., 127 Harvard Street.

CAMBRIDGE, Middlesex County.
Diemar, Lena Hess, M.D., 1626 Massachusetts Avenue.
Thomas, Charles Holt, M.D., 427 Broadway.
Wesselhoeft, Walter, M.D., 391 Harvard Street.

CAMBRIDGEPORT, Middlesex County.
Chase, Herbert A., M.D., 950 Massachusetts Avenue.
Chase, Hiram L., M.D., 924 Massachusetts Avenue.

CHARLESTOWN, Suffolk County.
Wood, Nelson Mervin, M.D., 72 High Street.

CHELSEA, Suffolk County.
Rollins, Charlotte A., M.D.

CLINTON, Worcester County.
Worcester John Fonerden, M.D., 90 Church Street.

COHASSET, Norfolk County.
Ferwald, Herbert E., M.D.

DANVERS, Essex County.
Batchelder, Henry F., M.D., 18 Locust Street.

DEDHAM, Norfolk County.
Babcock, Francis L., M.D., 15 Walnut Streeet.
Ware, William G., M.D.

DORCHESTER, Suffolk County.
Damon, Newcomb Lincoln, M.D., 405 Washington Street.

Emerson, Frederick Lincoln, M.D., 118 Hancock Street.
Hornby, Mary Stamper, M.D.
EAST WEYMOUTH, Norfolk County.
Chase, Joseph, Jr., M.D.
EVERETT, Middlesex County.
Richardson, Edward Blake, M.D., Chelsea and Corey Streets.
FALL RIVER, Bristol County.
Babcock, D. A., M.D.
Hill, Lucy Chaloner, M.D., 492 N. Main Street.
Van der Burgh, David W., M.D., 320 Rock Street.
FITCHBURG, Worcester County.
Bennett, William Henry, M.D.
Bingham, Russell, M.D., 62 Day Street.
FRAMINGHAM, Middlesex County.
Keith, Ellen L., M.D., Winter Street.
GARDNER, Worcester County.
Colby, Edwin A., M.D.
GLOUCESTER, Essex County.
Conant, Thomas, M.D.
HINGHAM, Plymouth County.
Spalding, Samuel H., M.D.
KINGSTON, Plymouth County.
Barstow, Benjamin P., M.D.
LAWRENCE, Essex County.
Scott, Chester W., M.D.
Dunham, George Perry, M.D., 252 Broadway.
LEOMINISTER, Worcester County.
Latham, Carrie Augusta, M.D., 38 Central Street.
Miller, Edward Roscoe, M.D., 15 Merriam Street.
LEXINGTON, Middlesex County.
Piper, Fred. Smith, M.D.
LOWELL, Middlesex County.
Holt, Edward B., M.D.
Humphreys, Otis M., M.D., 392 Wistford Street.
Leland, Clarence H., M.D., 128 Merrimac Street.
Martin, G. Forest, M.D., 17 Kirk Street.
Stephenson, Benjamin S., M.D., 49 Kirk Street.
LYNN, Essex County.
Haywood, George William, M.D., 45 Hanover Street.
Hopkins, William T., M.D., 65 Broad Street.
Varney, Edith Charles, M.D., 132 Broad Street.
MALDEN, Middlesex County.
Hodgdon, Frank A., M.D., 45 Pleasant Street.
Whiting, Walter B., M.D.
MATTAPAN, Suffolk County.
Palmer, Anna Chipman, M.D.
MIDDLEBORO, Plymouth County.
Fryer, Winsor F., M.D., 26 Oak Street.
MONSON, Hampden County.
Rand, John Prentice, M.D., 74 Main Street.

NANTUCKET, Nantucket County.
Coleman, Ellingwood B., M.D., Centre Street.
NEW BEDFORD, Bristol County.
Hunt, Charles R., M.D., 262 Union Street.
Seip, Charles Lewis, M.D., 299 Union Street.
Shaw, John Cook, M.D., 23 S. Sixth Street.
Sisson, Edward R., M.D.
NEWBURYPORT, Essex County.
Foss David, M.D.
Johnson, Frederick Charles, M.D., 26 Market Street.
Worcester, George W., M.D.
NEWTON, Middlesex County.
Bothfeld, James F., M.D., 455 Centre Street.
Reed, Clara D. W., M.D., 140 West Church Street.
Scales, Edward P., M.D.
NEWTON CENTRE, Middlesex County.
May, George Elisha, M.D., Institution Avenue and Beacon Street.
Sylvester, Stephen Alden, M.D., Beacon Street.
NEWTON HIGHLANDS, Middlesex County.
Eaton, Samuel Lewis, M.D.
NEWTONVILLE, Middlesex County.
Talbot, George H., M.D.
NORTHAMPTON, Hampshire County.
Darby, Edward A., M.D.
Darby, Margaret G., M.D.
ORANGE, Franklin County.
Monroe, John Eugene, M.D.
PALMER, Hampden County.
Wilkins, George H., M.D.
PITTSFIELD, Berkshire County.
Noyes, Henry A., M.D.
PLYMOUTH, Plymouth County.
Shaw, John Joseph, M.D., 14 Brewster Street.
SALEM, Essex County.
Ferguson, Arthur B., M.D., 45 Federal Street.
Gardner, Frank Augustine, M.D., 23 North Street.
Percy, George Emory, M.D.
Mudge, Catherine Gertrude, M.D., 309 Essex Street.
Sherman, Sarah E., M.D., 11 Barton Square.
SOMERVILLE, Middlesex County.
Carvill, Alphonso H., M.D.
Newton, Frank Lewis, 147 Highland Avenue.
Peasley, Emma Janet, M.D.
SOUTH ASHBURTON, Worcester County.
Perkins, Archie Elmer, M.D.
SOUTHBRIDGE, Worcester County.
Edwards, Franklin W., M.D., 26 Hamilton Street.
SOUTH FRAMINGHAM.
Dennett, George William, M.D.

SPENCER, Worcester County.
Murdock, Edward A., M.D., 22 Pleasant Street.
SPRINGFIELD, Hampden County.
Bennitt, Francis N., M.D., 120 Sumner Avenue.
Brown, Plumb, Jr., M.D., 503 State Street.
Carmichael, John H., M.D., 41 Maple Street.
Cushing, Alvin M., M.D., 175 State Street.
Parsons, Clarice Johnston, M.D., 347 St. James Avenue.
Rice, Harry Edwin, M.D., 236 State Street.
Rowe, Alice Eliza, M.D., 177 State Street.
Sweet, Clara Maria, M.D., 2 Maple Street.
TAUNTON, Bristol County.
Dwinell, Byron L., M.D.
Hayward, Joseph W., M.D.
Walker, Frank Clifford, M.D., 108 High Street.
WALTHAM, Middlesex County.
Emery, Winfred Newell, M.D., 749 Main Street.
WAREHAM, Plymouth County.
Gleason, Charles Sherman, M.D.
WARE, Hampshire County.
Spencer, George Frederick Allen, M.D., 40 Church Street.
WARREN, Worcester County.
Perkins, Charles Edwin, M.D.
WELLESLEY, Norfolk County.
Wiswall, Edward H., M.D.
WESTBOROUGH, Worcester County.
Adams, George Smith, M.D.
Brownell, De Ette, M.D., The Westborough Insane Hospital.
Klopp, Henry Irwin, M.D.
WEST NEWTON, Middlesex County.
Paine, Clarence M., M.D.
Paine, Horace M., M.D.
Paine, N. Emmons, M. D.
WESTPORT, Bristol County.
Tupper, John Darrow, M.D.
WEST ROXBURY, Suffolk County.
Howard, Alonzo Gale, M.D., 1977 Centre Street.
WINCHESTER, Middlesex County.
Church, Adaline B., M.D.
WOBURN, Middlesex County.
Chalmers, Robert, M.D., 47 Pleasant Street.
Packer, Henry E., M.D., 11 Pleasant Street.
WORCESTER, Worcester County.
Allen, Lamson, M.D., 20 Elm Street.
Barton, J. Marcus, M.D.
Bray, Amanda C., M.D., 4 Wellington Street.
Crisand, Carl, M.D., 2 Charlotte Street.
Forbes, George F., M.D., 42 Williams Street.
Nichols, Charles L., M.D., 248 Main Street.
Rockwell, Alfred Elijah Perkins, M.D., 248 Main Street.

Shapleigh, Alfred L., M.D., 38 Pleasant Avenue.
Slocomb, George A., M.D., 804 Main Street.
Warren, John K., M.D., 68 Pleasant Street.

Michigan.

ADRIAN, Lenawee County.
Lards, Charles H., M.D., 33 Butler Street.
ANN ARBOR, Washtenaw County.
Ball, Joseph Harris, M.D.
Clark, Ernest A., M.D.
Copeland, Roy S., M.D., 46 Catherine Street.
Dewey, Willis A., M.D.
Garwood, Vashti D., M.D., 40 Twelfth Street.
Hinsdale, Wilbert B., M.D.
Kinyon, Claudius B., M.D.
Sears, M. Maywood, M.D., 95 South Main Street.
BAY CITY, Bay County.
Nottingham, John C., M.D.
BEDFORD, Calhoun County.
Smith, Cyrenius C., M.D.
BRONSON, Branch County.
Mowry, Henry P., M.D.
BROOKLYN, Jackson County.
Jones, Leonidas M., M.D.
CHARLOTTE, Eaton County.
Allen, Sarah J., M.D.
CONCORD, Jackson County.
Tuthill, Frank S., M.D.
CORUNNA, Shiawassee County.
Babington, John, M.D.
DETROIT, Wayne County.
Bailey, William M., M.D., 25 Miami Avenue.
Bowen, Emma K., M.D., 156 St. Auburn Avenue.
Caron, George C., M.D., 30 Henry Street.
Crumrine, Charles G., M.D., 1444 Majestic Building.
Knight, Stephen H., M.D., 18 W. Willis Avenue.
Leseure, Oscar, M.D., 406 Cass Avenue.
MacLachlan, Daniel A., M.D., 1301 Majestic Building.
McLaren, William R., M.D., 25 Washington Avenue.
Miller, Christopher C., M.D., 31 Winder Street.
Obetz, Henry L., M.D., 139 First Street.
Olin, Rollin C., M.D., 110 Henry Street, W.
Orleman, E. Louise, M.D., 32 Bagg Street.
Richards, R. Milton, M.D., 25 Washington Avenue.
Robertson, Herbert Miller, M.D., 64 Myrtle Street.
Sage, Norman L., M.D., 680 Twenty-fourth Street.
Spranger, M. J., M.D., 23 Adams Avenue, E.
Sterling, Charles F., M.D., 396 Jefferson Avenue.
Stevens, Mary T., 6 Adams Avenue, W.
Stevens, Rollin H., M.D., 6 Adams Avenue, W.

Stewart, Francis E., M.D., 106 Charlotte Street.
Willard, Mary A., M.D., 142 West High Street.
EATON RAPIDS, Eaton County.
Hyde, Rufus J., M.D.
GRAND RAPIDS, Kent County.
Brigham, Homer C., M.D., 27 Morris Avenue.
Hoag, Frank L., M.D., 373 S. College Avenue.
Norris, Maria Whittelsey, M.D., Widdicomb Building.
Sinclair, Malcolm C., M.D., 124 Sheldon Street.
HOLLY, Oakland County.
Bartholomew, Daniel D., M.D.
HOWELL, Livingston County.
Mills, Wesley J., M.D.
IONIA, Ionia County.
Defendorf, John J., M.D.
IRVING.
Hendershott, Lizzie A., M.D.
JACKSON, Jackson County.
Smith, Dean T., M.D., 302 N. Elm Street.
KALAMAZOO, Kalamazoo County.
Ayres, James N., M.D., 534 S. Burdick Street.
Balyeat, Edmund A., M.D., 122 W. Main Street.
Cornell, Albert B., M.D.
Sherman, Nancy B., M.D.
LANSING, Ingham County.
Nottingham, David M., M.D.
MASON, Ingham County.
Jenkins, Charles G., M.D.
MOUNT CLEMENS, Macomb County.
Lenfesty, John A., M.D., 27 N. Gratiot Street.
MOUNT PLEASANT, Isabella County.
Pullen, Charles D., M.D.
NILES, Berrien County.
Ullery, Arthur O., M.D.
OWASSO, Shiawassee County.
Crum, J. D., M.D., 314 N. Ball Street.
PETOSKEY, Emmet County.
Ramsdell, Oscar Luman, M.D.
PONTIAC, Oakland County.
Avery, Aaron B., M.D.
PORTLAND, Ionia County.
Allen, George D., M.D.
Smith, Chester, M.D.
REED CITY, Osceola County.
Spinney, Andrew B., M.D.
SAGINAW, Saginaw County.
Cowell, Joseph H., M.D., 301 S. Warren Avenue.
STURGIS, St. Joseph County.
Van Vleck, Peter H., M.D.

TECUMSEH, Lewanee County.
Frost, William A., M.D.
THREE RIVERS, St. Joseph County.
Clark, Whitman E., M.D.
YPSILANTI, Washtenaw County.
Barton, William R., M.D., 216 Washington Street.

Minnesota.

CROOKSTON, Polk County.
Just, August Adolph, M.D.
DULUTH, St. Louis County.
Bowman, Frederick C., M.D., 203 Second Avenue, W.D.
Pillsbury, Charles B., M.D., Palladio Building.
FARIBAULT, Rice County.
Wagner, Charles Henry, M.D.
FERGUS FALLS, Otter Tail County.
Welch, George Oaks, M.D.
GRANADA, Martin County.
Hamlin, George Baldwin, M.D.
LE SUEUR, Le Sueur County.
Fisher, William H., M.D.
MARSHALL, Lyon County.
Renninger, John S., M.D.
MINNEAPOLIS, Hennepin County.
Aldrich, Henry C., M.D., 313 Medical Block.
Crawford, Joanna D., M.D., 3016 Bloomington Avenue.
Eaton, Cora E. Smith, M.D., 607 Masonic Temple.
Fisher, Anna M., M.D., 412 Nicollet Avenue.
Hall, Levi, M.D., 77 Highland Avenue.
Higbee, Albert E., M.D., Masonic Temple.
Horning, David W., M.D., 604 Dayton Building.
Kock, Margaret, M.D., 628 Fourth Street, S.E.
Leavitt, Henry H., M.D., 909 Fourth Street, S.E.
Leonard, William E., M.D., 608 Nicollet Avenue.
Richardson, Oscar K., M.D., 303 Masonic Temple.
Ripley, Martha G., M.D., 24 Tenth Street, South.
Roberts, George F., M.D., 604 Dayton Building.
Williamson, Alonzo P., M.D., 502 Nicollet Avenue.
RED WING, Goodhue County.
Stephens, Aaron M., M.D., 431 Fourth Street.
SHERBURNE, Martin County.
Harnden, George B., M.D.
SLAYTON, Murray County.
Lowe, Thomas, M.D.
ST. PAUL, Ramsey County.
Briggs, Warren S., M.D.
Cobb, Sheridan G., M.D., 1852 Marshall Avenue.
Higbee, Chester G., 130 Western Avenue.
Mann, Eugene L., M.D., 681 Endicott Street.
Ogden, Benjamin H., M.D., German Bank Building.

STILLWATER, Washington County.
Clark, George E., M.D., 203 South Main Street.
WINONA, Winona County.
Wilberton, Lawrence G., M.D.

Missouri.

BOWLING GREEN, Pike County.
Reily, Walter E., M.D.
CARTHAGE, Jasper County.
Flower, Frank W., M.D.
CENTERVIEW, Johnson County.
Reid, John M., M.D., Main Street.
CHILLICOTHE, Livingston County.
Gordon, George A., M.D.
EXCELSIOR SPRINGS, Clay County.
Henry, Samuel Dwyer, M.D.
FULTON, Callaway County.
Coombs, James T., M.D.
Theilmann, Emil, M.D.
GARDEN CITY, Cass County.
Schoor, Edward, M.D.
HANNIBAL, Marion County.
Bishop, Frank A., M.D., 509 Broadway.
KANSAS CITY, Jackson County.
Aplynne, Guy Elmont, M.D., 1214 Main Street.
Colt, Emily S., M.D., 2327 Tracy Avenue.
Cramer, William E., M.D., 1103 Main Street.
Dean, George A., M.D., 1103 Main Street.
Delap, Silas C., M.D., 1214 Main Street.
Edgerton, Mark, M.D., 1106 Main Street.
Elliott, Charles S., M.D., 1103 Main Street.
Elliott, Frank, M.D., 1008 Main Street.
Forster, William A., M.D., 328 Rialto Building.
Foster, William Davis, M.D., 420 West Eleventh Street.
Hickox, Kate Louisa, M.D.
Hudson, Thomas Howard, M.D., 421 Deardorff Building.
Jenney, William H., M.D., 324 West Twelfth Street.
Neumeister, Anton E., M.D., 1214 Main Street.
Northrup, Emerson S., M.D., 414 Garfield Avenue.
Patterson, Joseph M., M.D., 306 Commerce Building.
Ray, William L., M.D., 1214 Main Street.
Runnels, Moses Thurston, M.D., 912 Walnut Street.
Starcke, Andrew Herman, M.D., 639 Kansas Avenue.
Van Scoyoc, Lloyd G., M.D., 1103 Main Street.
Wise, Julius C., M.D., 14 West Twelfth Street.
KIDDER, Caldwell County.
Cannon, J. M. W., M.D.
KIRKSVILLE, Adair County.
McConnell, Carl Philip, M.D.

OREGON, Holt County.
Thatcher, John Thomas, M.D.
ST. JOSEPH, Buchanan County.
Hall, William G., M.D., 822 Jule Street.
Westover, Henry W., M.D., Commercial Block.
ST. LOUIS, St. Louis County.
Blanke, Theodore F., M.D., 3918 Shenandoah Avenue.
Campbell, James Alexander, M.D., 1729 Washington Avenue.
Comstock, Thomas Griswold, M.D., 3401 Washington Avenue.
Galloway, William Lincoln, M.D., 1232 Taylor Avenue.
Gibson, David M., M.D., 412 South Jefferson Street.
Gilbert William Wallace, M.D., 241 South Jefferson Avenue.
Goodman, Charles H., M.D., 3329 Washington Avenue.
Grundemann, J. William, M.D., 1000 W. Jefferson Avenue.
Gunderlach, Charles H., M.D., 3900 Westminster Place.
Gunderlach, William H., M.D., 3821 Finney Avenue.
Gutherz, Lizzie Gray, M.D., 3689 Olive Street.
Harris, William John, M.D., 3514 Lucas Avenue.
Kershaw, J. Martine, M.D., 3421 Washington Avenue.
Luyties, Carl J., M.D., 2816 Lafayette Avenue.
McElwee, L. Claude, M.D., 215 S. Jefferson Avenue.
Mellies, Charles, M.D., 3825 N. Twentieth Street.
Morgan, Willis B., M.D., 4200 N. Grand Avenue.
Richardson, William C., M.D., 411 Orange Street.

Montana.

BUTTE, Silver Bow County.
Cowperthwaite, Joseph Erving, M.D., 9 Owsley Block.
HELENA, Lewis and Clarke County.
Thompson, Charles S. W., M.D.

Nebraska.

BEATRICE, Gage County.
Sprague, Charles G., M.D.
COLUMBUS, Platt County.
Miessler, C. F. Otto, M.D.
CRETE, Saline County.
Foss, John B., M.D.
FAIRBURN, Jefferson County.
Clarke, Harvey L., M.D.
FAIRMONT, Fillmore County.
Ashby, Sherman F., M.D.
FALLS CITY, Richardson County.
Neal, George H., M.D.
HARTINGTON, Cedar County.
Chandler, Charles D., M.D.
Hancock, Avery C., M.D.
LINCOLN, Lancaster County.
Bailey, Benjamin F., M.D., 141 South Twelfth Street.
Carr, E. Arthur, M.D., 1205 O Street.

Dorris, Alva H., M.D., 141 South Twelfth Street.
Finney, Everett B., M.D., 1329 N. Twelfth Street.
Merryman, Thomas T., M.D., 533 N. Twenty-seventh Street.
Perky, Leonore, M.D., 148 South Twelfth Street.
Shoemaker, Charles A., M.D., 503 South Eleventh Street.

NELSON, Nuckolls County.
Cate, William A., M.D., Union Building.

NORFOLK, Madison County.
Holden, Horace Thomas, M.D.
Verges, W. Ferdinand, M.D., 901 Prospect Avenue.

OMAHA, Douglas County.
Alexander, Ernest L., M.D., 1204 North Twenty-fourth Street.
Campbell, Samuel M., M.D., 1326 South Thirty-second Street.
Connell, Ralph W., M.D., 1707 Dodge Street.
Foote, Dellizon A., M.D., 200 Paxton Block.
Hanchett, William Henry, M.D., Bee Building.
Homes, Abby Virginia, M.D., 1512 Twenty-ninth Street.
Quimby, Stillman J., M.D., 318 South Twenty-sixth Street.
Wood, Orlando S., M.D., 521 N. Y. L. Building.
Worley, Howard A., M.D., Continental Block.

ORD, Valley County.
Billings, Robert Anderson, M.D.

ORLEANS, Harlan County
Hoffman, Jacob Oliver, M.D.

PLATTE CENTER, Platte County.
Benthack, Peter L., M.D.

PLATTSMOUTH, Cass County.
Humphrey, William Armine, M.D.

TREMONT.
Leake, Endell N., M.D., 237 West Sixth Street.

WAHOO, Saunders County.
Way, Frank E., M.D.

Nevada.

CARSON CITY, Ormsby County.
Wagner, Philippina, M.D.

New Hampshire.

DOVER, Strafford County.
Smith, George R., M.D.

EXETER, Rockingham County.
Tuttle, Walter, M.D., Court Street.

KEENE, Cheshire County.
Worcester, Frank D., M.D.

LACONIA, Belknap County.
Wiley, Rebecca W., M.D., 160 Main Street.

LAKEPORT, Belknap County.
Wrisley, John A., M.D.

LITTLETON, Grafton County.
Parker, Edwin K., M.D.

MANCHESTER, Hillsboro County.
Dodge, Charles E., M.D., 913 Elm Street.
Morose, Martin V. B., M.D.
NASHUA, Hillsboro County.
Rounseval, Charles Sedgwick, M.D., 211 Main Street.
NEW BOSTON, Hillsboro County.
Gould, Herbert D., M.D.
OSSIPEE, Carroll County.
Grant, William H., M.D.
PENACOOK, Merrimack County.
Roby, George F., M.D.

New Jersey.

ASBURY PARK, Monmouth County.
Ackerman, James F., M.D., 905 Grand Avenue.
Bryan, Joseph Harter, M.D., 221 Asbury Avenue.
Upham, Ella Prentiss, M.D.
ATLANTIC CITY, Atlantic County.
Baily, Alfred W., M.D., 1809 Pacific Avenue.
Balliet, Lorenzo Dow, M.D., 1001 Atlantic Avenue.
Cromwell, Lydia Hertz, M.D.
Crosby, George W., M.D., 716 Atlantic Avenue.
Fleming, John R., M.D., 1903 Pacific Avenue.
Gardiner, William G., M.D., 158 South Penn Avenue.
Miller, Mary, M.D.
Munson, Milton L., M.D., 1503 Pacific Avenue.
Sooy, Walter C., M.D., 1921 Pacific Avenue.
Westney, Alfred W., M.D., 1302 Pacific Avenue.
Youngman, Maurice D., M.D., 1618 Pacific Avenue.
ATLANTIC HIGHLANDS, Monmouth County.
Fay, George De Witt, M.D., 23 Bay View Avenue.
BAYONNE, Hudson County.
Myers, Samuel I., M.D., Avenue C and W. Thirty-third Street.
BELVIDERE, Warren County.
Lefferts, Franklin P., M.D.
BRIDGETON, Cumberland County.
Streets, Jacob G., M.D.
BURLINGTON, Burlington County.
Shreve, Joseph, M.D.
CAMDEN, Camden County.
Artz, Jerome L., M.D., 3000 Westfield Avenue.
Griffith, Anna E., M.D., 501 North Fourth Street.
Griscom, L. E., M.D., 9191 South Fifth Street.
Howard, Erving Melville, M.D., 401 Linden Street.
McGeorge, Wallace, M.D., 521 Broadway.
Middleton, M. F., M.D., 423 Market Street.
Moslander, William S., M.D., 837 Penn Street.
Woodward, George D., M.D., 211 Broadway.
EAST ORANGE, Essex County.
Beckwith, Seth R., M.D., 135 Prospect Street.

ELIZABETH, Union County.
Brown, Stanley R., M.D., 287 North Broad Street.
ENGLEWOOD, Bergen County.
Best, George B., M.D.
HACKENSACK, Bergen County.
Adams, Charles F., M.D., 229 Union Street.
HADDONFIELD, Camden County.
Lyon, Melvern S., M.D., 24 Main Street.
Shivers, Bowman H., M.D.
Williams, Franklin E., M.D.
IRVINGTON, Essex County.
Bruce, Ida F., M.D.
JERSEY CITY, Hudson County.
Everett, Ambrose S., M.D., 37 Garrison Avenue.
Nevin, J. Lawrence, M.D., 158 Bowers Street.
Opdyke, Levings A., M.D., 55 Clinton Avenue.
LYONS FARMS, Union County.
Ward, William R., M.D.
MATAWAN, Monmouth County.
Straughn, Clinton Clement, M.D.
MONTCLAIR, Essex County.
Bull, H. H.
Butler, Clarence W., M.D., 35 Fullerton Avenue South.
Geddes, Annie Lowe, M.D., 69 Fullerton Avenue.
MOORESTOWN, Burlington County.
Mattson, Alfred S., M.D.
MORRISTOWN, Morris County.
Bradford, Frank Standish, M.D., 36 Maple Avenue.
Connett, George Cramer, M.D., 45 Washington Street.
Uebelacker, Arman E., M.D., 109 South Street.
MOUNT HOLLY, Burlington County.
Branin, John W., M.D.
Grumbrecht, Oscar Leonard, M.D., 139 High Street.
Van Derveer, George U., M.D.
MULLUCA, Gloucester County.
Carr, Henry H., M.D.
NEWARK, Essex County.
Dennis, Laban, M.D., 30 Central Avenue.
Harman, George W., M.D., 900 Broad Street.
Nivison, Anna T., M.D., 567 Orange Street.
Sleght, B. H. B., M.D., 31 Lincoln Park.
NEW BRUNSWICK, Middlesex County.
Applegate, G. T., M.D., 25 Livingston Avenue.
ORANGE, Essex County.
Moffat, Edgar V., M.D., 476 Main Street.
Richards, George Herbert, M.D., 30 Highland Avenue.
PASSAIC, Passaic County.
Church, Charles A., M.D., 128 Prospect Street.
De Baun, Edwin, M.D., 142 Main Street.
PATERSON, Passaic County.
Carr, Ada, M.D., 125 Vreeland Avenue.

Kinne, Porter S., M.D., 9 Church Street.
Kinne, Theodore Y., M.D., 9 Church Street.
PLAINFIELD, Union County.
Cooley, Justus H., M.D., 122 Westervelt Avenue.
Davis, Thomas S., M.D., 603 Park Avenue.
Rushmore, Edward, M.D., 429 Park Avenue.
PRINCETON, Mercer County.
Kline, Andrew K., M.D.
RIDGEWOOD, Bergen County.
Ockford, George M., M.D., 3 Oak Street.
RIVERTON, Burlington County.
Hall, Harrison B., M.D.
SOUTH ORANGE, Essex County.
Heberton, William W., M.D.
SUMMIT, Union County.
Burling, J., M.D.
UPPER MONTCLAIR, Essex County.
Holmes, Frances W., M.D., Bellevue Avenue.
VINELAND, Cumberland County.
Foote, Theodore, M.D., 636 Wood Street.
WASHINGTON, Warren County.
McKinstry, Frank P., M.D.
WEST HOBOKEN, Hudson County.
McClelland, David, M.D., 104 Clinton Avenue.
WOODBURY, Gloucester County.
Campbell, Duncan, M.D.
Parker, T. Elwood, M.D.

New York.

ADAMS, Jefferson County.
Nickelson, W. H., M.D., A. D. Ripley Block.
AKRON, Erie County.
Parker, Frank D., M.D., 101 Main Street.
ALBANY, Albany County.
Cox, Edward Gilbert, M.D., 109 State Street.
Cox, Frederick Joseph, M.D., 109 State Street.
Cox, George A., M.D., 80 S. Swan Street.
Dowling, Joseph Ivimey, M.D., 214 State Street.
Gorham, George E., M.D., 160 Hamilton Street.
Milbank, William E., M.D., 111 State Street.
Nead, William M., M.D., 205 State Street.
Van Loon, Arthur Burton, M.D., 50 Eagle Street.
ATTICA, Wyoming County.
Gifford, Willis B., M.D.
BALDWINSVILLE, Onondago County.
Martin, Leslie, M.D., 22 Genessee Street.
Royal T. Cook, M.D., 101 Milton Avenue.
BATAVIA, Genesee County.
Cole, Directus De Forest, M.D.

Hutchins, Horace S., M.D.
Le Seur, John Wesley, M.D.

BELMONT, Alleghany County.
Hardy, William Jones, M.D.
Paul, William Kendall, M.D.

BINGHAMTON, Broome County.
Corwin, Elizabeth, M.D., 104 Main Street.
Jenkins, George Hamilton, M.D., 139 Main Street.
Martin, Lynn A., M.D., 74 Exchange Street.
Snyder, Edward E., M.D.
Ward, Charles Austin, M.D.

BROOKFIELD VILLAGE, Madison County.
Irons, Francesca L., M.D., Church Street.

BROOKLYN, Kings County (New York City).
Allen, Herbert C., M.D., 310 Clermont Avenue.
Baker, Jennie Van Holland, M.D., 512 Bedford Avenue.
Baylies, B. L. B., M.D., 418 Putnam Avenue.
Belden, Charles K., M.D., 179 Gates Avenue..
Bonnell, Charles Lewis, M.D., 3 Hanson Place.
Boocock, Robert, M.D., 965 Flatbush Avenue.
Bryant, William Cullen, M.D., 64 Greene Avenue.
Butler, William M., M.D., 507 Clinton Avenue.
Chapin, Edward, M.D., 21 Schermerhorn Street.
Cort, Lottie A., M.D., 89 Division Avenue.
Elliott, Joseph B., M.D., 493 Clinton Avenue.
Fincke, Bernhardt, M.D., 122 Livingston Street.
Fiske, Edwin Rodney, M.D., 488 Nostrand Avenue.
Fiske, William M. L., M.D., 484 Bedford Avenue.
Hasbrouck, Everett, M.D., 369 Ninth Street.
Jeffery, George Clinton, M.D., 343 Jefferson Avenue.
Johnston, Charles L., M.D., 467 Vanderbilt Avenue.
Keep, J. Lester, M.D., 460 Clinton Avenue.
Lines, Mary Louise, M.D., 344 Washington Avenue.
Minton, Henry Brewster, M.D., 165 Joralemon Street.
Moffat, John L., M.D., 1136 Dean Street.
Monmonier, Julius L., M.D., 480 Classon Avenue.
Muncie, Libbie Hamilton, M.D., 119 Macon Street.
Pierron, Henry J., M.D., 438 Greene Street.
Richardson, B. M., M.D., 151 Milton Street.
Ritch, Orando S., M.D., 337A Macon Street.
Robinson, Nathaniel, M.D., 89 Halsey Street.
Schenck, Herbert Dana, M.D., 241 McDonough Street.
Simon, Samuel H., M.D., 171 Garfield Place.
Simmons, Daniel, M.D., 1188 Dean Street.
Talmage, Samuel, M.D., 22 Schermerhorn Street.
Valentine, Richard K., M.D., 33 Eighth Avenue.
Von Der Luhe, Amelia D. F., M.D., 801 Driggs Avenue.
Warner, Alton G., M.D., 194 Schermerhorn Street.
Winchell, Walter B., M.D., 137 Berkeley Place.

BUFFALO, Erie County.
Albertson, Charles S., M.D., 358 Richmond Avenue.

Baethig, Henry, M.D., 350 Pennsylvania Street.
Bodenbender, Edward G., M.D., 660 Walden Avenue.
Chadwick, John Gartside, M.D., 262 Delaware Avenue.
Cook, Joseph T., M.D., 636 Delaware Avenue.
Decker, William More, M.D., 416 Norwood Avenue.
Erb, Peter, M.D., 32 Palace Arcade.
Fisher, Edward A., M.D., 1038 Fillmore Avenue.
Frazee, Charles Edward, M.D., 1662 Broadway.
Hussey, Elisha P., M.D., 493 Porter Avenue.
Lewis, F. Park, M.D., 454 Franklin Street.
Lewis, Frederick Daniel, M.D., 188 Franklin Street.
Marcy, Henry William, M.D., 1148 Main Street.
Martin, Truman J., M.D., 245 North Street.
Maycock, Burt J., M.D., 33 Allen Street.
Miller, John, M.D., 48 St. John's Place.
Moseley, George Thomas, M.D.. 2021 Delaware Avenue.
Shepard, Jessie, M.D., 21 Irving Place.
Stearns, George Raynolds, M.D., 207 Linwood Avenue.
Stumpf, Daniel B., M.D., 693 Ellicott Street.
Wage, John F., M.D., 414 Seneca Street.
Wilcox, De Witt G., M.D., 173 Lexington Avenue.
Wright, Andrew R., M.D., 414 Elmwood Avenue.
Young, William Dickson, M.D., 29 Park Street.

CAMBRIDGE, Washington County.
Clark, Lymann, A., M.D.

CANTON, St. Lawrence County.
Williams, Frank Fay, M.D., 6 Goodrich Street.

CARTHAGE, Jefferson County.
Robinson, Franklin E., M.D.

COOPERSTOWN, Otsego County.
Harrison, Herbert Alexander, M.D.

CORNING, Steuben County.
Wellington, James F., M.D., 64 E. Second Street.

CORTLAND, Cortland County.
Spalding, Julia H., M.D., 39 N. Main Street.

DELHI, Delaware County.
Schumann, Carl, M.D.

DUNKIRK, Chautauqua County.
Rieger, Joseph, M.D., 404 Central Avenue.

EAST BLOOMFIELD, Ontario County.
Partridge, Barton Scott, M.D.

ELMIRA, Chemung County.
Eddy, Ermina Catharine, M.D., 500 William Street.

FREDONIA, Chautauqua County.
Couch, Asa S., M.D.
Evans, Albert J., M.D.

GENESEO, Livingston County.
Southall, Edw. W., M.D.

GENEVA, Ontario County.
Hopkins, William Wilder, M.D., 114 Main Street.

GLENS FALLS, Warren County.
Birdsall, Stephen T., M.D.
GOSHEN, Orange County.
Seward, Frederick W., M.D., Main Street.
GOWANDA, Cattaraugus County.
Adams, G. Francis, M.D.
Arthur, Daniel H., M.D.
Potter, Clarence Albert, M.D.
Zwetsch, J. D., M.D., Main Street.
HAMILTON, Madison County.
Gifford, Gilbert L., M.D.
HOMER, Cortland County.
Pratt, Lester M., M.D.
HOOSICK FALLS, Rensselaer County.
Putnam, William B., M.D., 34 Wilder Avenue.
ITHACA, Tompkins County.
Beman, Charles P., M.D.
Besemer, Howard Burhause, M.D., Osborn Block.
Besemer, Martin, M.D., 6 W. State Street.
Griggs, Elma, M.D., 9 E. Seneca Street.
JAMESTOWN, Chautauqua County.
Ormes, Francis D., M.D.
Rice, Alvin B., M.D., 117 Fairmont Avenue.
JOHNSTOWN, Fulton County.
Walrad, Caleb B., M.D., 21 N. Perry Street.
KEESEVILLE, Essex County.
Pope, Willis G., M.D.
LEROY, Genesee County.
Skinner, Scott W., M.D.
LOCKPORT, Niagara County.
Hurd, S. Wright, M.D., 73 Main Street.
MAMARONECK, Westchester County.
Hall, Mathew J., M.D.
MEDINA, Orleans County.
Sweet, Emily E., M.D.
MIDDLETOWN, Orange County.
Talcott, Selden H., M.D.
MOUNT VERNON, Westchester County.
Jones, Henry C., M.D., 220 S. First Avenue.
Van Denberg, M. W., M.D., 107 Union Avenue.
NEW BRIGHTON, Richmond Co.
Conklin, Frances C. Donovan, M.D., 48 Westervelt Avenue.
Robinson, Samuel A. W., M.D.
NEWBURGH, Orange County.
Mitchell, John J., M.D.
NEW ROCHELLE, Westchester County.
Finch, Edwin W., M.D., Center Avenue and Prospect Street.
Roberts, David J., M.D.

NEW YORK, New York County.

Allen, Paul, M.D., 3 E. Forty-eighth Street.
Allen, Timothy Field, M.D., 3 E. Forty-eighth Street.
Allen, T. Wilford, M.D., 110 W. Twelfth Street.
Arcularius, Philip E., 104 W. Forty-fourth Street.
Arschagouni, John, M.D., 733 Lexington Avenue.
Baldwin, Jared G., M.D., 8 E. Forty-first Street.
Bassett, John S., M.D., 11 W. Thirty-first Street.
Beebe, Clarence E., M.D., 3 W. Thirty-seventh Street.
Bennett, James A., M.D., 4 Irving Place.
Bergeron, Emma G., M.D., 778 Madison Avenue.
Berghaus, Alexander, M.D., 138 E. Sixty-fifth Street.
Bishop, William H., M.D., 46 W. Forty-eighth Street.
Bissell, Arthur F., M.D., 157 Maiden Lane.
Bond, Mary E., M.D., 122 Lexington Avenue.
Boynton, Frank H., M.D., 36 W. Fiftieth Street.
Brown, M. Belle, M.D., 135 W. Thirty-fourth Street.
Carleton, Bukk G., M.D., 75 W. Fiftieth Street.
Chase, J. Oscar, M.D., 214 E. Fifty-third Street.
Church, Eloise I., M.D., 41 W. Ninety-fourth Street.
Clark, Byron G., M.D., 162 W. 122d Street.
Crump, Walter Gray, 693 Madison Avenue.
Danforth, Loomis L., M.D., 59 W. Fifty-second Street.
Davis, John E. L., M.D., 743 Madison Avenue.
Deady, Charles, M.D., 110 W. Forty-eighth Street.
Dearborn, Henry M., M.D., 146 W. Fifty-seventh Street.
Delabarre, Walter E., M.D., 222 W. Fifty-ninth Street.
Demarest, John H., M.D., 59 W. 126th Street.
Deschere, Martin, M.D., 334 W. Fifty-eighth Street.
Dillingham, Thomas Manley, M.D., 8 W. Forty-ninth Street.
Dillow, George Morris, M.D., "The Rutland," 57th St. and Broadway.
Doughty, Francis E., M.D., 512 Madison Avenue.
Dowe, Frank LeC., M.D., S. Boulevard and Briggs Avenue.
Dowling, John W., M.D., 8 W. Forty-fifth Street.
Dunlevy, Rita, M.D., 328 W. Fifty-seventh Street.
Ermentraut, John P., M.D., 261 East Fourth Street.
Frazer, Francis MacDonald, M.D., 41 W. Forty-fifth Street.
Garrison, John B., M.D., 111 E. Seventieth Street.
Gayde, E. Appleton, M.D., 657 Park Avenue.
Gilbert, Charles E., M.D., 323 W. Twenty-third Street.
Guernsey, Egbert, M.D., 180 W. Fifty-ninth Street.
Guernsey, William N., M.D., 27 W. Fifty-second Street.
Hamlin, Frederick William, M.D., 103 W. Forty-eighth Street.
Hann, Lucy M., M.D., 100 W. Eighty-eighth Street.
Hathaway, Henry S., M.D., 146 W. Ninety-second Street.
Haywood, Abner, M.D., 27 Sutton Place.
Helfrich, Charles H., M.D., 64 W. Forty-ninth Street.
Helmuth, William Tod, M.D., 504 Fifth Avenue.
Helmuth, William Tod, Jr., M.D., 465 Lexington Avenue.
Hertz, Sue Emma, M.D., 102 W. Forty-fourth Street

Hollister, Frederick Kellogg, M.D., 521 Madison Avenue.
Houghton, Henry C., M.D., 7 W. Thirty-ninth Street.
House, Wallace Belding, M.D., "Flower Hospital."
Howe, J. Morgan, M.D., 58 W. Forty-seventh Street.
Hunt, Dwight B., M.D., 159 Madison Avenue.
Hutchinson, John, M.D., 693 Madison Avenue.
Keep, Caroline J. Yeomans, M.D., 308 W. Thirty-sixth Street.
Kellogg, Edwin M., M.D., 115 E. Thirty-seventh Street.
King, William Harvey, M.D., 64 W. Fifty-first Street.
Laidlaw, George Frederick, M.D., 137 W. Forty-first Street.
Land, Joseph Foster, M.D., 130 W. 126th Street.
Leal, Malcolm, M.D., 107 W. Forty-eighth Street.
Lewis, Henry M., M.D., "Florence," 18th Street, and 4th Avenue.
MacBride, Nathaniel Louis, M.D., 138 W. Forty-third Street.
McDonald, William O., M.D., 117 W. Forty-fourth Street.
McDowell, Charles, M.D., 116 W. Thirteenth Street.
McDowell, George W., M.D., 136 W. 130th Street.
McMichael, Arkell R., M.D., 969 Madison Avenue.
Maeder, John G., M.D., 304 E. 120th Street.
Marcy, Erastus E., M.D., 369 Fifth Avenue.
Mills, Walter Sands, M.D., 154 W. 119th Street.
Montgomery, Richard W., M.D., 48 W. Ninety-fourth Street.
Mossman, Nathan A., M.D., 28 E. Forty-seventh Street.
Neilson, Howard Stout, M.D., 46 W. Forty-eighth Street.
Norton, Arthur B., M.D., 16 W. Forty-fifth Street.
Nott, Frederick J., M.D., 554 Madison Avenue.
O'Connor, Joseph T., M.D., 29 W. Forty-fifth Street.
Ogden, Edwin G., M.D., 451 West End Avenue.
Ostrom, Homer I., M.D., 42 W. Forty-eighth Street.
Palmer, A. Worrall, M.D., 138 W. Eighty-first Street.
Palmer, Miles W., M.D., 235 E. Eighteenth Street.
Pardee, Ensign B., M.D., 218 W. Thirty-fourth Street.
Patchen, George H., M.D., 11 E. Fifty-ninth Street.
Pease, Charles G., M.D., 101 W. Seventy-second Street.
Pettet, Isabella Margaretta, M.D., 308 E. Fifteenth Street.
Pierce, Willard I., M.D., 64 W. 126th Street.
Porter, Eugene H., M.D., 181 W. Seventy-third Street.
Powel, Milton, M.D., 163 W. Seventy-sixth Street.
Rankin, Egbert G., M.D., 226 W. Fifty-ninth Street.
Reynolds, Warren U., M.D., 320 Manhattan Avenue.
Richardson, Andrew J., M.D., 39 E. Eighty-third Street.
Richardson, George W., M.D., 138 E. Seventy-ninth Street.
Roberts, George W., M.D., 1672 Broadway.
Rudderow, Edward Douglas, M.D., 233 W. Eighty-third Street.
Russell, H. Everett, M.D., 30 E. Seventy-fourth Street.
Schley, James Montford, M.D., 32 W. Forty-ninth Street.
Scott, William H., M.D., 104 W. Forty-fourth Street.
Seward, John Perry, M.D., 113 W. Eighty-fifth Street.
Shelton, George G., M.D., 521 Madison Avenue.
Shepard, George Andrew, M.D., 1672 Broadway.

Sherman, Irving Prescott, M.D., 114 W. Forty-fourth Street.
Simpson, Edwin Daniel, M.D., 320 W. 115th Street.
Smith, Henry M., M.D., 288 St. Nicholas Avenue.
Smith, St. Clair, M.D., 25 W. Fiftieth Street.
Smith, T. Franklin, M.D., 264 Lenox Avenue.
Stevens, David D., M.D., 67 W. Forty-ninth Street.
Stewart, George Taylor, M.D., Metropolitan Hospital.
Storer, John Hudson, M.D., 30 Edgecombe Avenue.
Teets, Charles E., M.D., 37 W. Thirty-ninth Street.
Thompson, John H., M.D., 36 E. Thirtieth Street.
Thompson, Virgil, M.D., 56 W. Twenty-first Street.
Townsend, Irving, M.D., 67 W. Forty-sixth Street.
Tuttle, Edward G., M.D., 61 W. Fifty-first Street.
Tytler, George E., M.D., 113 W. 126th Street.
Van den Burg, William H., M.D., 32 W. Forty-ninth Street.
Vehslage, Samuel H., M.D., 117 W. Forty-third Street.
Ver Nooy, Charles, M.D., 146 W. Sixty-fourth Street.
Wait, Phœbe J. B., M.D., Ninth Avenue and Thirty-fourth Street.
West, Edwin, M.D., 155 W. Twelfth Street.
Wetmore, John McE., M.D., 41 E. Twenty-ninth Street.
Wilcox, Sydney F., M.D., 51 W. Fifty-second Street.
Wilder, Louis de V., M.D., 55 W. Fifty-third Street.
Woodward, A. M., M.D., 128 W. Thirteenth Street.

NIAGARA FALLS, Niagara County.
Hodge, William H., M.D., 265 Third Street.
Hough, Walter D., M.D.

NORTH GRANVILLE, Washington County.
Spoor, David E., M.D.

NORTH TARRYTOWN, Westchester County.
Brown, Edward V., M.D.

NORWOOD, St. Lawrence County.
Sumner, Charles Oliver, M.D., 4 Park Street.

NYACK, Rockland County.
Couch, Lewis B., M.D.

OSWEGO, Oswego County.
Richards, Llewellyn B., M.D.

OWEGO, Tioga County.
Greenleaf, John T., M.D.
Hyde, Louis D., M.D.

OXFORD, Chenango County.
Miller, Robert Emmet, M.D.

PATTERSON, Putnam County.
Birdsall, Thomas P., M.D.

PIKE, Wyoming County.
Andrews, Lemar M., M.D.

RANDOLPH, Cattaraugus County.
Babcock, Archibald H., M.D.

ROCHESTER, Monroe County.
Adams, Rueben A., M.D., 46 North Fitzhugh Street.
Biegler, Joseph A., M.D., 58 South Clinton Street.

Bissell, Elmer Jefferson, M.D., 75 South Fitzhugh Street.
Button, Lucius L., M.D., 45 South Clinton Street.
Collins, Newton M., M.D., 43 East Avenue.
Haywood, Julia F., M.D., 612 West Avenue.
Keegan, William A., M.D., 40 South Clinton Street.
Lee, John Mallory, M.D., 121 Lake Avenue.
MacCallum, John H., M.D., 408 Monroe Avenue.
Parsons, Thomas, M.D., 33 South Clinton Street.
Ricker, Marcena S., M.D., 58 Lorimer Street.
Smith, Frederick R., M.D., 400 East Main Street.
Sumner, Charles R., M.D., 33 South Clinton Street.
Wolcott, Edwin H., M.D., 57 South Union Street.

ROME, Oneida County.
Southwick, Augustus B., M.D., 107 West Liberty Street.

ROUND LAKE, Saratoga County.
Delavan, Elizabeth Hinchley, M.D.

SARANAC LAKE, Franklin County.
Hallock, J. Henry, M.D.,

SARATOGA SPRINGS, Saratoga County.
Ayres, Emma F. Macomber, M.D., 69 Caroline Street.
Pearsall, S. J., M.D.

SCHENECTADY, Schenectady County.
Faust, Louis, M.D.

STAATSBURG, Dutchess County.
Hawley, Hercules R., M.D.

STILLWATER, Saratoga County.
Smith, Sarah N. M.D.

SYRACUSE, Onondaga County.
Candee, J. Willis, M.D., 402 Warren Street.
Church, Herbert A., M.D., 601 Warren Street.
Dake, Adeline B. Crowley, M.D., 117 East Jefferson Street.
DuBois, Willard C., M.D., 357 South Warren Street.
Hartman, W. Louis, M.D., "The Kenyon," 601 Warren Street.
Keeler, E. Elmer, M.D., 423 East Jefferson Street.
Kinne, Arthur B., M.D.
Kinne, E. Olin, M.D., 516 Warren Street.
Sheldon, Jay W., M.D., 402 Warren Street.
Sherwood, Bradford Wyckoff, M.D., 1117 S. Salina Street.

TROY, Rensselaer County.
Bloss, Jabez P., M.D., 45 Second Street.
Coburn, Edward S., M.D., 91 Fourth Street.

UTICA, Oneida County.
Terry, Marshall O., M.D., 196 Genesee Street.
Watson, William H., M.D., 270 Genesee Street.

WARSAW, Wyoming County.
Brownell, John Robert, M.D.
Slaught, James E., M.D.

WASHINGTONVILLE, Orange County.
Reed, William Emory, M.D.

WATERLOO, Seneca County.
Talmage, Alonzo L., M.D.
WATERVILLE, Oneida County.
Dean, Louis W., M.D.
WAVERLY, Tioga County.
Hilton, Willard M., M.D., 435 Penn Avenue.
WHITE PLAINS, Westchester County.
Birch, Charles E., M.D.
WHITESBORO, Oneida County.
Haines, Charles Ter Bush, M.D., 91 Main Street.
WOLCOTT, Wayne County.
Bruce, Augustus H., M.D.
YONKERS, Westchester County.
Fay, Russell P., M.D., 165 Warburton Avenue.
Keith, Horace G., M.D., 107 South Broadway.
Phillips, R. Oliver, M.D., 257 Warburton Avenue.
Trotter, Richard R., M.D., 189 Warburton Avenue.

North Dakota.

FARGO, Cass County.
Vidal, James W., M.D.
GRAND FORKS, Grand Forks County.
Rutledge, Samuel W., M.D.
JAMESTOWN, Stutsman County.
De Puy, Richard G., M.D.
LEONARD.
Hobart, W. F., M.D.

Ohio.

ADA, Harding County.
Ames, Charles S., M.D.
AKRON, Summit County.
Carter, Rolla Bert, M.D., 106 Adolph Avenue.
ASHTABULA, Ashtabula County.
Seigfried, John P., M.D.
ATLANTIC, Pickaway County.
Macomber, Addison P., M.D.
BELLEFONTAINE, Logan County.
Wilson, Joseph H., M.D.
CADIZ, Harrison County.
Lyons, Matilda Jamison, M.D.
CANTON, Stark County.
House, Charles Everett, M.D.
CHILLICOTHE, Ross County.
Hoyt, Charles, M.D.
CINCINNATI, Hamilton County.
Brickley, Laura C., M.D., Chase and Hamilton Avenues.
Buck, Jirah D., M.D., 124 West Seventh Street.
Crank, C. D., M.D., 106 Auburn Avenue.
Crawford, John M., M.D., Auburn Avenue.

Geiser, S.R., M.D., 1511 Baymiller Street.
Geohegan, William A., M.D., 918 Hawthorne Avenue, Price's Hill.
Kirk, Ellen Maria, M.D., 169 West Seventh Street.
McCormick, A. L., M.D., 3110 Woodburn Avenue.
McDermott, George C., M.D., Odd Fellows' Temple.
Meade, Stephen Johnson D., M.D., 417 Everett Street.
Meader, Lee Douglas, M.D., 28 West Seventh Street.
Pauly, C.A., M.D., Odd Fellows' Temple.
Reid, Robert G., M.D., 20 West Seventh Street.
Walton, Charles E., M.D., N.W. corner Seventh and John Streets.
Wiggers, Henry H., M.D., 529 Everett Street.

CLEVELAND, Cuyahoga County.
Baldinger, Arthur F., M.D., 670 Euclid Avenue.
Baxter, Harris H., M.D., 275 Prospect Street.
Beckwith, D. H., M.D., 528 Prospect Street.
Biggar, Hamilton F., M.D., 166 Euclid Avenue.
Bishop, Hudson D., M.D., 143 Euclid Avenue.
Gurley, Eber W., M.D., 39 Windermere Street, E. C.
Horner, J. Richeey, M.D., Prospect and Erie Streets.
Hunt, Ella Grace, M.D., 608 West Eighth Street.
Jewitt, Edward H., M.D., 484 Arcade.
Jones, Gaius J., M.D., 5 Rockwell Street.
Kraft, Frank, M.D., 57 Bell Avenue.
Parsons, Katherine, M.D., 914 Prospect Street.
Phillips, William A., M.D., 89 Euclid Avenue.
Pomeroy, Harlan, M.D., 526 Prospect Street.
Quay, George H., M.D., 122 Euclid Avenue.
Rust, Edwin G., M.D., 29 Euclid Avenue.
Sanders, John C., M.D., 608 Prospect Street.
Sanders, J. Kent, M.D., 101 Colonial Arcade.
Schneider, Adolph Benedict, M.D., 381 Jennings Avenue.
Stephens, James A., M.D., 1350 Euclid Avenue.
Stone, Martha M., M.D., 104 Prospect Street.
Van Norman, H. B., M.D., 289 Pearl Street.
Waite, Kent B., M.D., 176 Euclid Avenue.
Wilson, T. P., M.D., 132 Arlington Street.
Winship, Annette Thomas, M.D., 517 Prospect Street.
Wood, James C., M.D., 122 Euclid Avenue.

COLLEGE HILL, Hamilton County.
Kilgour, Peter Thompson, M. D.

COLUMBUS, Franklin County.
Barbee, Benjamin I., M.D., 60 East Broad Street.
Carpenter, Willard B., M.D., 657 North High Street.
Hunt, John S., M.D., 200 East State Street.
Hunt, Maurice P., M.D., 200 East State Street.
Schulze, Carl A., M.D., 49 East Main Street.
Sigrist, Christopher W., M.D., 31 South Fifth Street.
Silbernagel, Charles Edward, M.D., 657 North High Street.

COVINGTON, Miami County.
Rosenberger, Abraham S., M.D.
DAYTON, Montgomery County.
Bittinger, Frank D., M.D., 23 West Fourth Street.
DEFIANCE, Defiance County.
Chapman, Edward E. K., M.D.
EAST PALESTINE, Columbiana County.
Hughes, Charles Wilson, M.D.
ELYRIA, Lorain County.
Baldwin, Henry D., M.D.
Spooner, Henry Miner, M.D.
FINDLAY, Hancock County.
Barnhill, Tobias G., M.D., 208 South Main Street.
FREMONT, Sandusky County.
Dixey, Mabel G., M.D., 401 Chrogan Street.
HAMILTON, Butler County.
Goodman, Julia, M.D., 401 Ross Street.
HARTWELL, Hamilton County.
Phillips, Lincoln, M.D., Section Avenue.
HELENA, Sandusky County.
Crismore, James M., M.D.
HOME CITY, Hamilton County.
Goddard, John, Jr., M.D.
Goldsmith, Alfred E., M.D.
IRONTON, Lawrence County.
Justice, Harry Brick, M.D., 14 South Third Street.
LANCASTER, Fairfield County.
Hershberger, Joseph P., M.D., 351 East Main Street.
MARIETTA, Washington County.
Curtis, Harry N., M.D., 314 Second Street.
MARION, Marion County.
Sawyer, Charles E., M.D.
MIDDLETON, Butler County.
Reed, Thomas E., M.D.
MONROE, Butler County.
Steddon, Charles, M.D.
NEWARK, Licking County.
Mitchell, John A., M.D., 69 Third Street.
NEW PHILADELPHIA, Tuscarawas County.
Sigrist, Philip H., M.D., East High Street.
NILES, Trumbull County.
Clingan, Thomas Omar, M.D., 22 Main Street.
Gaston, Sarah Phylinda, M.D., Main Street.
NORWALK, Huron County.
Morrill, Edwin C., M.D.
NORWOOD, Hamilton County.
Snow, Henry, M.D.
OBERLIN, Lorain County.
Pyle, Harold Ward, M.D., 5 West College Street.

OXFORD, Butler County.
Munns, Charles O., M.D.
PARIS, Stark County.
Wolcott, Roy C., M.D.
PIQUA, Miami County.
Fahnestock, Joseph C., M.D.
PLYMOUTH, Richland County.
Fackler, Joshua M., M.D.
PORTSMOUTH, Scioto County.
McClure, John R., M.D., 98 East Second Street.
PROSPECT, Marion County.
Lunger, Justus S., M.D., East Water Street.
RAVENNA, Portage County.
Johnson, R. B., M.D.
ROCK CREEK, Ashtabula County.
Morrison, Frank A., M.D., 6 South Main Street.
SALEM, Columbiana County.
Church, T. T., M.D., 70 East Main Street.
SANDUSKY, Erie County.
Bowman, Isaac N., M.D.
Gillard, Edwin, M.D., 423 Columbus Avenue.
Lehman, Franklin Frees, M.D., Kingsbury Block.
Morley, F. W., M.D., Washington Row.
Wilder, Guert Elmore, M.D., Masonic Temple.
SIDNEY, Shelby County.
Beebe, Henry E., M.D.
SPRINGFIELD, Clark County.
House, Robert B., M.D., 108 East High Street.
TOLEDO, Lucas County.
Claypool, Albert, M.D.
Maxwell, Lewis K., M.D., 2208 Monroe Street.
Rees, Owen, M.D., 314 Erie Street.
Rich, Frank, M.D.
Watts, William, M.D., 339 Huron Street.
TROY, Miami County.
Loy, Ed. W., M.D., Franklin and Walnut Streets.
Means, J. W., M.D.
VAN WERT, Van Wert County.
Hastings, William C., M.D., 11 South Washington Street.
WARREN, Trumbull County.
Palmer, Owen A., M.D.
Rolston, Rose Amanda, M.D., 52 High Street.
Sherwood, H. A., M.D.
WAYNESVILLE, Warren County.
Ellis, J. Tressler, M.D.
WOOSTER, Wayne County.
Gann, John A., M.D., 53 N. Market Street.
YOUNGSTOWN, Mahoning County.
Hills, Howard Bakewell, M.D.
McGranaghan, William H., M.D., 220 Federal Street.

ZANESVILLE, Muskingum County.
Smith, Francis A., M.D., 18 South Fourth Street.

Oklahoma Territory.

WOODWARD.
Sawyer, Eugene W., M.D.

Pennsylvania.

ALLEGHENY, Alllegheny County.
Calhoun, John Charles, M.D., 75 Arch Street.
Goff, Ella D., M.D., 41 N. Diamond Street.
Rinehart, Stanley Marshall, M.D., 293 Western Avenue.
White, Roland T., M.D., 273 Western Avenue.
Willard, Lewis Henry, M.D., 236 Western Avenue.
ALLENTOWN, Lehigh County.
Bittner, Albert Jacob, M.D., 1036 Hamilton Street.
Hassler, William A., M.D., 105 North Eighth Street.
Kistler, Abraham L., M.D., 115 North Ninth Street.
Martin, Constantine H., M.D.
Slough, Frank J., M.D.
ALTOONA, Blair County.
Morrow, Emory H., M.D., 943 Seventeenth Street.
ARDMORE, Montgomery County.
Gramm, Gustavus E., M.D.
ATHENS, Bradford County.
Corbin, John L., M.D., 245 Main Street.
BEAVER FALLS, Beaver County.
Moon, Seymour B., M.D., 1314 Eighth Avenue.
BELLEVUE, Allegheny County.
Starr, Pearl, M.D.
BETHLEHEM, Northampton County.
Garis, Frank A., M.D., 220 South Broad Street.
BLOOMSBURG, Columbia County.
Champlin, Henry William, M.D., 37 West Main Street.
BRADFORD, McKean County.
Johnson, Frederick Charles, M.D., 191 Congress Street.
White, A. Grace, M.D., 87 Main Street.
BRYN MAWR, Montgomery County.
Powel, William C., M.D.
CAMBRIDGE SPRINGS, Crawford County.
Mickle, J. Byron, M.D.
CATASAUQUA, Lehigh County.
Yoder, Daniel, M.D.
CHAMBERSBURG, Franklin County.
Bowman, Benjamin, M.D.
Crawford, Katherine M., M.D., 131 North Main Street.
CHESTER, Delaware County.
Growther, Isaac, M.D., 104 E. Seventy-eighth Street.
Hubbard, Charles H., M.D., Eighth and Madison Streets.
Maddux, Daniel P., M.D., 700 Madison Street.

Mercer, Robert P., M.D., 223 West Third Street.
Perkins, Charles W., M.D., 403 Broad Street.
Powel, Franklin, M.D., 241 East Fifth Street.
Webster, George C., M.D., 305 West Seventh Street.
Whitmore, Frank Beach, M.D.

COLLEGEVILLE, Montgomery County.
Krusen, Edward A., M.D.

EASTON, Northampton County.
Detwiller, John J., M.D.
Pursell, James Perry, M.D.
Seibert, William A., M.D.

EDGE HILL, Montgomery County.
Godshall, Samuel G., M.D.

EMAUS, Lehigh County.
Slough, William C. J., M.D.

ERIE, Erie County.
Cranch, Edward, M.D., 109 West Ninth Street.
Gifford, Edward F., 402 West Eighth Street.

FLEETWOOD, Berks County.
Lentz, Levi R., M.D.

FRANKLIN, Venango County.
Irwin, Thomas A., M.D., 1234 Liberty Street.

GLEN ROCK, York County.
Seitz, William Clinton, M.D.

GREENVILLE.
Schoonover, William Ed., M.D.

GREENCASTLE, Franklin County.
Nowell, John F., M.D.

HANOVER, York County.
Everhart, Oliver T., M.D.

HARRISBURG, Dauphin County.
Fager, Charles B., M.D., 120 Walnut Street.
Pollock, Martha Hays, M.D., 232 North Second Street.
Swartz, J. Ross, M.D.

HATBORO, Montgomery County.
Reading, Thomas, M.D.

HONESDALE, Wayne County.
Peterson, Pierson B., M.D.

INDIANA, Indiana County.
Knowlton, James Mathews, South Ninth Street.

JENKINTON, Montgomery County.
Heritage, Alfred C., M.D.

JOHNSTOWN, Cambria County.
Kistler, Horace Edwin, M.D., 313 Main Street.

KENNETT SQUARE, Chester County.
Johnson, Isaac D., M.D.

LANGHORN, Bucks County.
Heritage, Joseph B., M.D.

LEWISTOWN, Miffin County.
Griffit, John B., M.D.
McKEESPORT, Allegheny County.
Burlingame, Frank W., M.D.
MEADVILLE, Crawford County.
Parsons, Edgar C., M.D.
MEDIA, Delaware County.
Pratt, Trimble, M.D.
NARBERTH, Montgomery County.
Rotzell, Willett Enos, M.D.
NEW BRIGHTON, Beaver County.
Boyd, John S., M.D.
Pettit, Evelyn Sarah, M.D., 1109 Third Avenue.
NORRISTOWN, Montgomery County.
Shinn, Charles Tiel, M.D., 17 East Penn Street.
NORWOOD, Delaware County.
Baier, George F., M.D.
OAKMONT, Allegheny County.
Cooper, William Henry, M.D.
OIL CITY, Venango County.
Curran, Edwin J., M.D.
PHILADELPHIA, Philadelphia County.
Adams, Theodore Lewis, M.D., 1831-33 Chestnut Street.
Allen, John V., M.D., 4637 Frankford Avenue.
Allen, Richard C., M.D., 4419 Frankford Avenue.
Arthur, Alexander Beck, M.D., 2039 Spring Garden Street.
Ashcraft, Leow Thomas, M.D., 833 Chestnut Street.
Bartlett, Clarence, M.D., 1506 Arch Street.
Bayley, Weston D., M.D., 1434 Poplar Street.
Belville, Jacob Edgar, M.D., 5915 Greene Street.
Berens, Joseph, M.D., 1500 Greene Street.
Betts, B. Frank, M.D., 1609 Girard Avenue.
Bigler, William H., M.D., 118 North Seventeenth Street.
Boericke, Felix A., M.D., 1011 Arch Street.
Boericke, F. E., M.D., 6386 Drexel Road.
Boileau, John D., M.D., 804 Lehigh Avenue.
Bradford, Thomas L., M.D., 1862 Frankford Avenue.
Branson, Mary, M.D., 1719 Arch Street.
Brown, William K., M.D., 1311 North Broad Street.
Brunner, Edgar P., M.D., 1108 Spring Garden Street.
Carmichael, Thomas H., M.D., 7127 Germantown Ave., Germantown.
Carter, Woodward D., M.D., 1533 South Fifteenth Street.
Chase, Theodore Livingston, M.D., 1687 North Fifty-fourth Street.
Christine, Gordon M., M.D., 2043 West Twelfth Street.
Closson, James H., M.D., 53 West Chelton Avenue, Germantown.
Cooke, Mary A., M.D., 2113 North Eighteenth Street.
Dudley, Pemberton, M.D., 1405 North Sixteenth Street.
Dudley, Perry Hall, M.D., 1405 North Sixteenth Street.
Ealer, Percy H., M.D., 815 North Twenty-fourth Street.
Fischer, J. A., M.D., 505 Green Street.

Furman, Horace S., M.D., 1705 Tioga Street.
Gilbert, Irwin B., M.D., 2027 Columbia Avenue.
Goodno, William C., M.D., 1733 Chestnut Street.
Gramm, Theodore J., M.D., 846 North Broad Street.
Griffith, Lewis B., M.D., 2526 Ridge Avenue.
Griffith, Silas, M.D., 1431 Girard Avenue.
Griffith, William M., M.D., 1827 North Seventeenth Street.
Gross, Francis O., M.D., 1506 North Seventh Street.
Guernsey, Joseph C., M.D., 1923 Chestnut Street.
Gumpert, B. B., M.D., 840 Franklin Street.
Guy, Samuel S., M.D., 2517 Parrish Street.
Haines, Oliver Sloan, M.D., 137 North Fifteenth Street.
Hall, P. Sharpless, M.D., 1604 Arch Street.
Hancock, Elmer E., M.D., 1443 North Seventeenth Street.
Hancock, Joseph, M.D., 1639 Columbia Avenue.
Hassler, J. Wyllis, M.D., 1503 Poplar Street.
Humphrey, Edward, M.D., Somerton.
James, Bushrod W., M.D., corner Green and Eighteenth Streets.
James, D. Bushrod, M.D., 2005 North Twelfth Street.
James, John E., M.D., 1521 Arch Street.
Jones, John J., M.D., 1802 Mount Vernon Street.
Jordan, Oscar J., M.D., 704 Suydam Avenue.
Karsner, Charles W., M.D., 1320 South Broad Street.
Kase, Edmund Harris, M.D., 1325 Girard Avenue.
Knerr, Calvin B., M.D., 1137 Spruce Street.
Knowlton, William Waldo, M.D., 113 South Sixteenth Street.
Korndoerfer, Augustus, M.D., 1728 Green Street.
Korndoerfer, Augustus, Jr., M.D., 1728 Green Street.
Krewson, Amos D., M.D., 4613 Paul Street, Frankford.
Kurtz, Alfred J., M.D., 1531 South Thirteenth Street.
Laughlin, Thomas Liverzey, M.D., 2126 North Park Avenue.
Lawrence, F. Mortimer, M.D., 1601 Girard Avenue.
Layman, Alfred, M.D., 1630 North Eighteenth Street.
Leopold, Herbert Preston, M.D., Germantown.
Lichtenwalner, Abbot B., M.D., 2435 North Seventh Street.
Lyle, William Howard, M.D., 1833 Master Street.
Macfarlan, Duncan, M.D., 3924 Chestnut Street.
Macfarlan, Malcolm, M.D., 1805 Chestnut Street.
Mackenzie, George W., M.D., Somerton.
McClure, Eliza Lang, M.D., 1919 Wallace Street.
Malin, William H., M.D., Chestnut Hill.
Mansfield, Harry Knox, M.D., 19 West Chelton Ave., Germantown.
Mansfield, Job R., M.D., 4852 Main Street, Germantown.
Marshall, Anna M., M.D., 1420 Chestnut Street.
Mercer, Edward W., M.D., 157 North Fifteenth Street.
Middleton, Caleb S., M.D., 1523 Girard Avenue.
Mitchell, John Nicholas, M.D., 1505 Spruce Street.
Mohr, Charles, M.D., 1823 Green Street.
Myers, Charles E., M.D., 170 Green Lane, Manayunk.
Norton, Claude R., M.D., 700 North Fortieth Street.

Palen, Gilbert Joseph, M.D., Germantown.
Paxson, Oliver H., M.D., 123 North Sixteenth Street.
Pettengill, Eliza F., M.D., 300 North Tenth Street.
Posey, Louis Plumer, M.D., 1435 Walnut Street.
Raue, C. Sigmund, M.D., 121 North Tenth Street.
Reading, J. Herbert, M.D., 1811 Green Street.
Redman, John L., M.D., 1336 Spruce Street.
Reeves, Joseph M., M.D., 1609 Mount Vernon Street.
Ridge, Jonathan T., M.D., 1617 North Seventh Street.
Sartain, Harriet J., M.D., 212 West Logan Square.
Schollenberger, Lewis A., M.D., 637 Walnut Street.
Schwenk, Clayton S., M.D., 1319 Jefferson Street.
Shallcross, Isaac G., M.D., 1617 Arch Street.
Sharpless, Edward S., M.D., 1329 North Twelfth Street.
Shellenberger, Charles Neil, M.D., 1831 Wallace Street.
Shoemaker, Daniel Webster, M.D., 1924 Green Street.
Simmons, Clarence W., M.D., 1628 North Eighteenth Street.
Smilie, Nathan, M.D., 4124 Chester Avenue.
Smith, Dudley, M.D., Box 2141, Station A.
Snader, Edward R., M.D., 140 North Twentieth Street.
Spencer, William, M.D., 1820 Chestnut Street.
Stirk, James C., M.D., 4700 Chester Avenue.
Thomas, Charles M., M.D., 1623 Arch Street.
Thompson, Landreth W., M.D., 1701 Green Street.
Tindall, Van Room R., M.D., 323 Reed Street.
Tomlin, Richard Elmer, M.D., 2057 North Eighth Street.
Tomlinson, William H., M.D., 44 East Walnut Lane, Germantown.
Tuller, John J., M.D., 1931 Chestnut Street.
Van Baun, William W., M.D., 1402 Spruce Street.
Van Deusen, Edwin H., M.D., 2105 Tioga Street.
Van Gunten, Fred.W., M.D., 1432 Diamond Street.
Van Lennep, Gustave Adolphe, M.D., 1421 Spruce Street.
Van Lennep, William B., M.D., 1421 Spruce Street.
Vischer, Carl V., M.D., 1429 Poplar Street.
Wait, Oliver B., M.D., 1230 South Fifty-seventh Street.
Ward, John McE., M.D., 1915 Susquehanna Avenue.
Waylan, Julia Gould, M.D., 1832 Tioga Street.
Weaver, Chandler, M.D., Fox Chase P. O.
Weaver, Harry Sands, M.D., 1621 Chestnut Street.
Williamson, Matthew S., M.D., 1311 Arch Street.
Zeigenfus, A. Frank., M.D., 1124 Wallace Street.

PITTSBURG, Allegheny County.
Bier, Peter A., M.D., 4200 Butler Street.
Bingaman, C. F., M.D., 922 Penn Avenue.
Blair, William Wightman, M.D., 406 Penn Avenue.
Burgher, John C., M.D., 960 Penn Avenue.
Chapman, Millie J., M.D., 804 Penn Avenue.
Dake, B. F., M.D., 815 Penn Avenue.
Edmundson, Walter F., M.D., 1321 Fifth Avenue.
Fulton, Henry W., M.D., corner Ripley and Highland Avenue.

French, Malachi R., M.D., 627 Smithfield Avenue.
Gregg, Edward R., M.D., 334 South Highland Avenue.
Herron, Charles D., M.D., 3505 Butler Street.
Hofmann, Charles H., M.D., 510 South Highland Avenue.
Marshall, Robert S., M.D., 424 Shady Avenue.
Martin, W. J., M.D., 1712 Carson Street. S.S.
McClelland, James H., M.D., Fifth and Wilkins Avenues.
McClelland, John B., M.D., 409 Penn Avenue.
McClelland, Robert Watson, M.D., Fifth and Wilkins Avenue.
Miller, Zachary T., M.D., 2013 Carson Street.
Moreland, George B., M.D., 1321 Fifth Avenue.
Mueller, Gustave A., M.D., 400 Penn Avenue.
Perrine, J. K. M., M.D., 413 Penn Avenue.
Seip, C. P., M.D., 636 Penn Avenue.
Thompson, James Henry, M.D., 515 Penn Avenue.

PITTSTON, Luzerne County.
Johnson, Theodore M., M.D., 200 Susquehanna Avenue.

POTTSVILLE, Schuylkill County.
Boone, George H., M.D., 307 Washington Street.
Boyer, Francis W., M.D.
Swalm, Thomas W., M.D.

READING, Berks County.
Kline, David C., M.D.
Rittenhouse, Jacob S., M.D., 38 South Fourth Street.
Schantz, M. Margaret Hassler, M.D., 402 North Fifth Street.
Schollenberger, Lewis A., M.D., 637 Walnut Street.
Schmucker, F. R., M.D., 228 North Fifth Street.

ROCHESTER, Beaver County.
McCauley, John C., M.D., 128 Connecticut Street.

SCRANTON, Lackawanna County.
Brewster, Frederick D., M.D., 109 Jefferson Street.
Coolidge, John W., M.D., 334 Washington Avenue.
Heilner, Herbert Franklin, M.D., Burr Building.
Roberts, Charles W., M.D., 638 Washington Avenue.
Ware, Horace B., M.D.

SHARPSBURG, Allegheny County.
Dinsmore, Samuel W. S., M.D.

SHIPPENBURGS, Cumberland County.
Brown, Samuel G. A., M.D., 60 East Main Street.

SPRINGBORO, Crawford County.
Parsons, Anson, M.D.

SUSQUEHANNA, Susquehanna County.
Simmons, Silas S., M. D.

TITUSVILLE, Crawford County.
Sager, Cyril Wichfield, M.D., 108 West Main Street.

UNION CITY, Erie County.
Stem, Henry L., M.D.

UNIONTOWN, Fayette County.
Bowie, Alonzo P., M.D., 87 Main Street.

WALTER'S PARK, Berks County.
Walter, Robert, M.D.
WASHINGTON, Washington County.
Maurer, Joseph M., M.D., 59 West Wheeling Street.
WAYNE, Delaware County.
Smedley, Charles Davis, M.D.
WILKESBARRE, Luzerne County.
Bullard, J. Arthur, M.D.
WILLIAMSPORT, Lycoming County.
Reinhold, Hannah C., M.D., 761 West Fourth Street.
YORK, York County.
Dehoff, John W., M.D., 453 West Market Street.

Rhode Island.

BLOCK ISLAND, Newport County.
Champlin, John Carder, M.D.
BRISTOL, Bristol County.
Gooding, Gertrude, M.D.
Hasbrouck, Cornelius J., M.D., Hope Street.
CENTERDALE, Providence County.
Barnard, Charles A., M.D.
CENTRAL FALLS, Providence County.
Gottschalck, William von., M.D.
EAST PROVIDENCE, Providence County.
Allison, George Freeman, M.D., Warren Avenue.
NEWPORT, Newport County.
Chace, Nathanial Ray, M.D., 89 Touro Street.
Squire, Abiram F., M.D., 38 Catherine Street.
Stanton, Nathaniel Green, M.D., 9 Kay Street.
OLNEYVILLE, Providence County.
Lippitt, Louis Davis, M.D., 41 Pocasset Avenue.
PAWTUCKET, Providence County.
Bennett, John Hillman, M.D., 142 High Street.
Jenks, Frank R., M.D., 332 Main Street.
PROVIDENCE, Providence County.
Brown, Asa W., M.D., 27 Burnett Street.
Brown, Lucy H. A., M.D., 274 Broad Street.
Budlong, John Clark, M.D., 604 Westminster Street.
Budlong, Martin S., M.D., 604 Westminster Street.
Crocker, Harry Clinton, M.D., 67 Common Street.
Green, Charles L., M.D., 16 Jackson Street.
Hall, Robert, M.D., 117 Broad Street.
Hasbrouck, Sayer, M.D., 117 Broad Street.
Hunt, Annie W., M.D., 217 Washington Street.
Lance, John D., M.D., 21 Broadway.
Kenyon, Frances Aureola, M.D., 865 North Main Street.
Moss, Mary Denison, M.D., 231 Broadway.
Peck, George Bacheler, M.D., 865 North Main Street.
Sanger, Henry Mortimer, M.D., 1040 Westminster Street.
Sawin, Isaac W., M.D., 582 Broadway.

Stone, Waldo H., M.D., 133 Orms Street.
Thurber, Emily M., M.D., 170 Broad Street.
Whitmarsh, Henry Allen, M.D., 62 Jackson Street.
WESTERLY, Washington County.
Pagan, Frank C., M.D.,
Webster, Samuel C., M.D., 99 High Street.
WOONSOCKET, Providence County.
Kingsbury, Edward N., M.D., 93 Blackstone Street.
Reed, Robert G., M.D.,

South Dakota.

ABERDEEN, Brown County.
Fowler, DeWitt C., M.D.
SOUTH SIOUX FALLS, Minnehaha County.
Fulford, George Howard, M.D., 233 Philips Avenue.
VERMILLION, Clay County.
Cotton, Alonzo A., M.D.

Tennessee.

CHATTANOOGA, Hamilton County.
Price, Emmor H., M.D., 400 Georgia Avenue.
CLARKSVILLE, Montgomery County.
Wilson, Charles Gaston, M.D., 203 Main Street.
NASHVILLE, Davidson County.
Dake, Walter M., M.D., 218 North Vine Street.
Dake, William C., M.D., 218 North Vine Street.
McGavock, Clara Plimpton, M.D.
McMillan, Frances, M.D., Jackson Building.

Texas.

DENISON, Grayson County.
Warren, H. Anna, M.D., 817 Bond Street.
FORT WORTH, Tarrant County.
Pollock, Joseph Robert, M.D.
GAINESVILLE, Cooke County.
Stiles, Hunter Bell, M.D., Grand Avenue.
GALVESTON, Galveston County.
Mercer, William M., M.D., 1815 Church Street.
PEAVLAND.
Smith, Mark H., M.D.
SAN ANTONIO, Bexar County.
Bliem, Milton J., M.D., 425 Navarro Street.
TEXARKANA, Texas County.
Williams, Perry C., M.D.
VERNON, Wilbarger County.
Blackman, George Edwin, M.D.

Utah.

OGDEN, Weber County.
Wherry, Curtis A., M.D.

SALT LAKE CITY, Salt Lake County.
Hanchett, James C., M.D.
White, John T., M.D., 29 South State Street.

Vermont.

BELLOWS FALLS, Windham County.
Kirkland, Edward, M.D.
BURLINGTON, Chittenden County.
Colvin, Harvey E., M.D., 150 Cherry Street.
Sparhawk, George E. E., M.D.
MANCHESTER CENTRE, Bennington County.
Wyman, Edmond L., M.D.
MIDDLEBURY, Addison County.
Noble, Daniel Cook, M.D.
Smith, Melvin D., M.D.
NEWPORT, Orleans County.
Whitaker, Eugene E., M.D.
RUTLAND, Rutland County.
Gale, Charles A., M.D.

Virginia.

NORFOLK, Norfolk County.
Webster, Frank P., M.D., 316 Freemason Street.
SUFFOLK, Nansemond County.
Skiles, Francis W., M.D.

Washington.

SEATTLE, King County.
Young, E. Weldon, M.D., 1023 Columbia Street.
SPOKANE, Spokane County.
Grove, Charles E., M.D., Hyde Block.
Olmstead, Elmer D., M.D.
YAKIMA, Yakima County.
Fletcher, Cyrus G., M.D.

West Virginia.

MARTINSBURGH,, Berkeley County.
Day, George F., M.D.
SISTERVILLE, Tyler County.
Wells, George S., M.D.
WHEELING, Ohio County.
Fawcett, John M., M.D., 1116 Market Street.
WELLSBURG, Brooke County.
Roberts, Arthur Augustine, M.D.

Wisconsin.

APPLETON, Outagamie County.
Kanouse, Abijah W., M.D.
ASHLAND, Ashland County.
Perkins, Ernest D., M.D.

BELOIT, Rock County.
Van Delinder, Effie M., M.D., 556 Public Avenue.
EAU CLAIRE, Eau Claire County.
Noble, James H., M.D.
ELKHORN, Walworth County.
Austin, Edson C., M.D.
GREEN BAY, Brown County.
Olmstead, Austin Frederick, M.D.
JANESVILLE, Rock County.
Sutherland, Quincy O., M.D., 73 West Milwaukee Street.
KENOSHA, Kenosha County.
Pennoyer, Nelson A., M.D.
Ripley, George H., M.D.
LANCASTER, Grant County.
Hassell, Samuel E., M.D.
MADISON, Dane County.
Brown, Eugene A., M.D., 121 East Washington Avenue.
MAYVILLE, Dodge County.
Kaetel, Charles H., M.D.
MANITOWOC, Manitowoc County.
Paine, Richard K., M.D.
MILWAUKEE, Milwaukee County.
Beebe, Eugene W., M.D., 173 Wisconsin Street.
Carlson, Oscar W., M.D., 425 Milwaukee Street.
Forsbeck, Filip A., M.D., 425 Milwaukee Street.
Irving, Walter W., M.D., 173 Wisconsin Street.
Johnson, Solomon D., M.D., 204 Grand Avenue.
Lewis, Joseph, M.D., 330 National Avenue.
Martin, Frederick H., M.D.
Sherman, Lewis, M.D., 171 Wisconsin Street.
PORTAGE, Columbia County.
Gorton, Frederick T., M.D.
RACINE, Racine County.
Davis, John J., M.D., 504 Monument Square.
SHARON, Walworth County.
Treat, Charles R., Jr., M.D.
SPARTA, Monroe County.
Stiles, Frederick P., M.D.
SUPERIOR, Douglas County.
Russell, Henry A., M.D., 1705 Broadway, W.S.
TWO RIVERS, Manitowoc County.
Greiner, Frank W., M.D.
VIROQUA, Vernon County.
Suttle, Henry J., M.D.
WAUPACA, Waupaca County.
Brown, Dagmar M., M.D.
WEST LIMA, Richland County.
Cole, Beder A., M.D.
WHITEWATER, Walworth County.
Leland, A. G., M.D.

NOTICES OF DECEASED MEMBERS.

By Henry M. Smith, M.D., Necrologist, New York, N. Y.

CLIFFORD BURDETT ADAMS, M.D.,

New Haven, Conn.

At the meeting of the Institute held at Saratoga Springs, in 1886, Dr. Adams was present and was elected to membership. He was the son of Chester and Catherine Adams and was born in Suffield, Conn., January 8th, 1850. After attending the district school and later the Connecticut Literary Institute at Suffield, he began the study of medicine with Dr. David Chaffee, of Windsor Locks, Conn., attended lectures and graduated from the Hahnemann Medical College of Philadelphia in 1872. He began practise at Tariffville, Conn., on graduating, removing two years later to New Haven, where he continued until his death, August 19, 1898. He married Miss Georgia M. Sheridan, who, with three daughters and one son, a physician, survives him. It was through the efforts of Dr. Adams that Grace Hospital at New Haven was established in 1893, of which he was surgeon-in-chief.

GEORGE ALLEN, M.D.,

Gowanda, N. Y.

In 1897, at the meeting of the Institute in Buffalo, Dr. Allen became a member. Prior to his becoming such he was appointed by President Kinne, in 1892, a member of the Bureau of Nervous and Mental Diseases for the years 1893-94, and at the World's Homœopathic Congress at Chicago, in 1893, he presented a "Résumé of the statistical reports of the Middletown Homœopathic Hospital from 1874 to 1892, inclusive."

Dr. Allen was born in Poultney, Vt., September 16, 1853. After a four years' classical course he graduated from the University of Rochester, N. Y., in 1875 (receiving the degree of A.M. in 1878) and in the fall of the same year matriculated at the Hahnemann Medical College of Philadelphia, graduating therefrom in 1877, when after a year spent on the house staff of the Ward's Island Homœopathic Hospital, New York, he formed a partnership with our late associate, Dr. Erastus A. Munger, of Waterville, N. Y., succeeding to the practise on the death of the latter in 1879, in which he continued until 1890, when he was appointed first assistant physician to the Middletown Hospital. After seven years' service, Dr. Allen removed to Gowanda where he had accepted the position of superintendent of the Collins Farm State Homœopathic Hospital, which he held at the time of his death, November 14, 1897. Dr. Allen was married in January, 1881, to Miss Clare Tower, of Waterville, N. Y.

HENRY CLARKE COON, M.D.,

ALFRED CENTER, N. Y.

Was elected a member of the Institute at Niagara Falls, N. Y., in 1874. He was of Scotch-Irish descent, the son of Ezra and Cyrene Burdick Coon. His ancestors settled in Rhode Island, whence his grandfather, Daniel Coon, removed to West Edmeston, Oswego Co., N. Y., when his father was a lad, and where the subject of this sketch was born, January 28, 1828. The first nineteen years of his life were spent on his father's farm and attending the district school. Later he entered the De Ruyter Institute, at De Ruyter, N. Y., where he attended five terms, took a classical course in Alfred University, at Alfred, N. Y., and on graduating therefrom in 1868, was elected professor of Greek and Natural Science in the De Ruyter Institute, a position he held until 1871. The following year he graduated from the New York Homœopathic Medical College, having attended his first course at Bowdoin College, Me., in 1861. In 1882 he took a post-graduate course in Physics and Chemistry at Cornell University. Most of his life was spent pursuing the study of natural sciences, for which he developed a fondness in his early boyhood. He was connected with various societies, was a teacher in several institutions and a writer on scientific subjects. He was married November 21, 1851, to Miss L. Elvira Stillman, with whom he was a fellow teacher in Hopkinton Academy, who died April 21, 1879. He married Mrs. Mary E. Hill, December 6, 1888, who survives him. He died, May 9, 1898.

WILLIAM CLARK CUTLER, M.D.,

CHELSEA, MASS.

At the session of the Institute held in Boston, in 1869, Dr. Cutler was one of the two hundred and twelve new members. He became well known principally through his connection with the New England Vaccine Company, which he organized in 1871. He was the son of Phineon Newton Cutler and was born at Holliston, Mass., May 17, 1837. His early schooling was received at the High School at Ashland and at Mt. Hollis Academy. He graduated from the Hygeio-Therapeutic College, in Laight street, New York, in 1859, and began practise in Upton, Mass., the following year. Six years later he removed to Chelsea where he continued until his death, May 1st, 1899. In 1883 he became interested in the little-known country of Southern Florida, made large purchases of land, started a large plantation of tropical fruits and founded the town of Cutler on Biscayne Bay. He left a widow and one son, Dr. Charles S. Cutler.

JOHN CALHOUN DAILY, M.D.,

FORT SMITH, ARK.

Was one of the four hundred and ninety-four physicians present at the forty-fourth Institute and fourth quinquennial session of the International Homœopathic Congress, held at Atlantic City in June, 1891, when he became a member of the Institute. He was present the following year at Washington, taking part in the discussion on Orificial Surgery and also was one to make up the large number at the World's Congress at Chicago in 1893. At the meetings in Denver in 1894 and Detroit in 1896 he presented papers on

electric therapeutics. He served on the Bureaus of Ophthalmology, Otology and Laryngology, Gynecology, Organization and Registration, and of Clinical Medicine and also the Section on Neurology and Electro-Therapeutics.

Dr. Daily was the son of David and Mary Parker Daily and was born in Charleston, Ind., August 26th, 1860. Most of his boyhood was spent in his native town where he attended public school and later the Barnett Academy. He settled in Little Rock, Ark., in 1881, and became a student with our associate, Dr. William E. Green, attended lectures at Pulte Medical College, Cincinnati, graduating in 1883, when he settled in Fort Smith, where he soon acquired a large practice. In 1885 he married Mrs. Jennie Whitthorne, daughter of Major Thomas Lanigan, who with two sons, Harry P. and Thomas, survives him. He died at Stamford Hall, Stamford, Conn., July 31st, 1898.

MARTHA JANE FLANDERS, M.D.,

LYNN, MASS.

At the meeting of the Institute held in New York in 1867 there was considerable discussion regarding the admission of women to membership. Dr. Bushrod W. James offered a resolution that "The American Institute of Homœopathy admit properly educated women to its membership," which was rejected by a vote of fifty-six to sixty-eight. At the meeting held in Boston, two years subsequently, "the Censors reported that they had received applications in suitable form from Mercy B. Jackson, M.D., and Martha J. Flanders, M.D., but, in conformity with the resolution passed at New York, June 5, 1867, they had not reported them." The question of admitting women again presented itself and a resolution "That properly qualified physicians, men or women, are eligible to membership in the American Institute of Homœopathy," was carried by a vote of eighty-five to thirty-two. The Censors not having reported on them no action was taken on the applications, and it was ten years later when the Institute met at Lake George, that Dr. Flanders's name was again reported and she was duly elected a member. Several other women had in the meantime been elected to membership.

Dr. Flanders was the daughter of David and Martha Flanders, and was born in Concord, N. H., January 15th, 1823. After attending the district school in Hopkinton and afterward a pupil of Miss Susan Ela's noted school in Concord, she attended, and graduated from, the New Hampton Seminary. She taught several years in the West and South and returning to Concord began the study of medicine with our late associate, Dr. Alpheus Morrill, attended lectures at, and graduated in 1861 from, the New England Female College, which was merged in the Boston University School of Medicine in 1874. She began practice in Concord associated with Dr. Morrill, being the first woman practitioner in that city, where she remained two years and then located in Lynn, where she practised until 1893, when she retired from active work. Dr. Flanders was never married. Besides membership in the Institute she was also a member of the Massachusetts State and County Medical Societies. Dr. Flanders lectured on Diseases of Children in the Boston University School of Medicine 1879 to 1883. She died November 3d, 1898.

EDWIN MOSES HALE, M.D.,

CHICAGO, ILL.

At the first meeting of the Institute held after an interim of five years (during the war) in 1865, Dr. Hale was present as a delegate from the Illinois Homœopathic Medical Society and was elected to membership. He took part in the proceedings in discussing the value of potentization as developing the active principles of drugs and offering a resolution to appoint a committee of ten from the seven states in which there were Homœopathic pharmacies to visit such establishments and investigate the methods of manufacture employed therein. His first paper read before the Institute was "A Medico-Botanical Study," recommending the study of indigenous remedies and presenting a list of over fifty in number. He was appointed by President Guy a member of the Bureau of Materia Medica, on which he served continuously from 1866 to 1874 and five years subsequently. He also served one year on the Bureau of Clinical Medicine and two on that of Gynecology. His many papers read before the Institute have been mostly on the subjects of Materia Medica and the disorders of the reproductive organs. He was a voluminous writer on medical subjects, Bradford's "Bibliography" giving a list of over fifty titles, his largest and best known work being his "New Remedies," of which several editions were published. Always ready to discuss popular topics relating to health and medicine he was a frequent contributor to the daily newspapers.

Dr. Hale was the son of Dr. S. Hale, and was born in Newport, N. H., February 2, 1829. When he was seven years old his father removed to Fredonia, Ohio, where young Hale attended the public schools until he was fifteen years old when he went to Newark to learn the printer's trade, which, after becoming an associate editor of a newspaper in Newark, he abandoned for the study of law. While suffering from an attack of pneumonia he declined the old-school practise and placed himself under the care of Dr. Alonzo O. Blair with such satisfactory results that he gave up the study of law for that of medicine and entered the office of Dr. Blair, attended the first course of lectures given at the "Western College of Homœopathic Medicine," at Cleveland in 1850, receiving a diploma therefrom in 1859. In 1852 he began practise in Jonesville, Mich. While here he introduced himself to Dr. J. C. Peters as a contributor to the *N. A. Journal of Homœopathy* by two contributions in the May, 1858, number and the following year his name was enrolled as an associate editor. His contributions to many of the periodicals of our school have been numerous. In 1864 he was able to gratify a long cherished plan of locating and practising in Chicago, having formed a partnership with our late fellow member, Dr. Alvan E. Small, which continued five years, when he entered into partnership with his brother, P. H. Hale, which was dissolved at the time of the fire in 1871. He was a member of the faculty of the Hahnemann Medical College, Chicago, from 1865 to 1875, occupying the chair of (adjunct) Materia Medica, Therapeutics and Medical Botany, and later that of Materia Medica and Therapeutics of the New Remedies. Severing his connection with the college in 1876 he visited Europe and on his return accepted the chair of Materia Medica and Therapeutics in Chicago Homœopathic College, which was organized in 1876, which position he filled until 1887, when he was made "Emeritus," severing his connection with the faculty three years later.

Dr. Hale married in 1855 Miss Abbie George, of Jonesville, Mich. He died January 15th, 1899, leaving a widow and a son, Dr. Albert B. Hale, and a daughter, Mrs. Frances G. Gardiner.

HENRY ARVIN HOUGHTON, M.D.,

BOSTON, MASS.

Was one of the fifty-four members elected at the meeting of the Institute in Boston in 1859, and of whom there are but nine on our register. He was the second son of Paul Houghton, of Lyndon, Vt., where he was born December 25th, 1826, and where, at the "Academy," he attended school, defraying his expenses by working at the scale manufactory of the well-known firm of E. & T. Fairbanks, at St. Johnsbury, Vt. He studied medicine with Dr. Charles B. Darling, of Lyndon, one of the early members of the Institute, attended lectures at the Vermont Medical College, at Woodstock, in 1850 and the Homœopathic Medical College of Pennsylvania, session of 1851-2, graduating therefrom in the spring of the latter year. He at once began practise with his former preceptor, removing to Keeseville, N. Y., in 1856, where he remained twenty-one years, thence going to Charlestown, Mass., and finally to Marlboro Street, Boston, where he died January 15th, 1899. While in Keeseville he was an active member of the New York State Homœopathic Medical Society and in 1872 its President. He had also held similar position in the Massachusetts Homœopathic Medical Society and the Boston City Homœopathic Society. Dr. Houghton was married in 1852 to Miss Sarah D. Page, of St. Johnsbury, who died in 1890. In 1894 he married Mrs. Harriet B. Willard of Keeseville, N. Y., who, with his three sons, Harry, of Boston; Edmund, of Lexington, and Dr. Silas A., of Brookline, survives him.

HORATIO MILTON HUNTER, M.D.,

LOWELL, MASS.

Was elected a member at the meeting in Boston in 1869, but did not qualify. He was again elected in 1884 at Deer Park, Md. He was the son of James and Phœbe Miner Hunter and was born in Lyndon, Caledonia Co., Vt., September 29th, 1830. After attending the Lyndon Academy, he qualified himself as a teacher at "Vermont Conference Seminary," at Newbury, Vt., and pursued teaching as a vocation until concluding to become a physician, he studied with Drs. Charles B. Darling and Henry A. Houghton, of Lyndon, attended lectures at Dartmouth Medical College, Hanover, N. H., session of 1854-5, University of Vermont, at Burlington, session 1855-6, and the Homœopathic Medical College of Pennsylvania, session 1856-7, graduating therefrom in March, 1857, and began practise in West Concord, Vt., where he remained seven years, removing thence (1864) to St. Johnsbury, and in 1870 settling in Lowell, Mass., where he continued in practise until his death, January 11th, 1899. Dr. Hunter was a member of the Hahnemann Club of Lowell, a member of the staff of the Lowell General Hospital, member of the Massachusetts Homœopathic Society, and one of the founders of the Massachusetts Surgical and Gynecological Society. He married in 1860, Miss Susan M. Chase, of Concord, Vt., who survives him, with one daughter, Mrs. G. Forrest Martin.

HORACE FREMONT IVINS, M.D.,

PHILADELPHIA, PA.

He was elected a member of the Institute in 1887 at Saratoga Springs, N. Y. He was a member of the Bureau of Anatomy, Physiology and Pathology in 1890, and presented a paper on the "Physiological Action of the Epiglottis." He was a member of the Bureau of Ophthalmology, Otology and Laryngology in 1892, taking part in the discussion of the report. Again he was a member of the same department under the title of "Section" in 1894 and the four following years. At the International Homœopathic Congress at Atlantic City, in 1891, he presented a paper on "Hay Fever," and at the World's Congress of Homœopathic Physicians, at Chicago in 1893, as chairman of the Section of Rhinology and Laryngology, he read a paper on the recent progress in those specialties.

Dr. Ivins was the son of Isaac and Sarah Ann Ivins and was born October 30, 1856, at Penn's Manor, Bucks Co., Pa., where he attended school from 1864 to 1870, when his parents removed to Bristol and he became a pupil of Pierce's boarding-school for three years, and after one year spent at Swarthmore College he was obliged to leave on account of ill health, and in January, 1875 began the study of medicine with Dr. George W. Kirk, of Bristol, attended lectures at the Hahnemann Medical College of Philadelphia, 1876 to 1879, graduating the last year. He afterward took a special course at the University of Pennsylvania, 1879-80. For eighteen months after graduating he was associated with Dr. Charles M. Thomas, and in April, 1881, went to Europe where he spent ten months studying in London and Vienna. Seven years later he spent about three months in London and Paris studying eye and ear diseases. He was associated in practise on returning from his first visit to Europe with Dr. Harry S. Weaver. For several years he had charge of the Throat and Ear Department of the Hahnemann Dispensary, also the Germantown Homœopathic Dispensary, for four or five years preceding his death he had charge of the Department of Laryngology in the *Journal of Ophthalmology, Otology and Laryngology,* for two years Recording Secretary of the Homœopathic Medical Society, for three years Secretar of the Homœopathic Medical Society of Philadelphia, and for two years was Second Vice-President of the Alumni Association of the Hahnemann Medical College. He lectured on diseases of the ear and throat in his Alma Mater for ten years from 1886. He was a contributor of papers on his specialties to the various periodicals. In 1893 he published a work of 507 pages on "Diseases of the Nose and Throat." He attended the International Homœopathic Congress in London in 1881 and in 1888 the International Ophthalmological Congress at Heidelberg. Dr. Ivins married in April, 1888, Miss Emma V. Melcher, of Philadelphia. He died January 1st, 1899.

JOSEPH E. JONES, M.D.,

WEST CHESTER, PA.

At the meeting held in Brooklyn, N. Y., in 1858, Dr. Jones was elected a member of the Institute. His death, which occurred May 6th, 1899, leaves only four names of that class on our list of members. Dr. Jones was Secretary of the Bureau of Surgery in 1887 and Chairman of the Bureau of Ophthalmology, Otology and Laryngology in 1888.

He was born in West Chester Co., Pa., October 14th, 1832. After graduating from the University of Lewisburg, Pa., in 1853, he began the study of medicine with Dr. Joseph Carson, Professor of Materia Medica in the University of Pennsylvania. Instead of taking only the prescribed two courses of lectures he devoted three years to his college study and graduated from the University of Pennsylvania in 1856, and soon after was elected resident physician of the Philadelphia General Hospital and Children's Asylum, a compliment for one so young in the profession. Becoming dissatisfied with the results of the old-school treatment, he attended the session of 1856-7 at the Homœopathic Medical College of Pennsylvania, and in 1858 began to practise Homœopathy in West Chester, in which he continued until a short time before his death, when failing health obliged him to discontinue. In 1869 Dr. Jones published a pamphlet, "Homœopathy and Its Practitioners in Chester County."

REUBEN LUDLAM, M.D.,

CHICAGO, ILL.

The death of Dr. Ludlam reduces to three the number of present members who were elected in Chicago in 1857 at the first meeting of the Institute held west of Cleveland. Of the twenty-seven elected to membership, only six resided east of Detroit. For several years Dr. Ludlam had been the only attendant at our meetings of those who took part in the proceedings of that session (at which the writer was present though not a member). Prior to the session of 1865 the selection of subjects for papers and discussion was made by the "Committee on Scientific Subjects." At the 1865 meeting the "Bureau" plan was adopted and Dr. Ludlam was appointed on that of "Clinical Medicine and Zymoses" for 1866, and reappointed the following year. With the establishment of additional bureaus Dr. Ludlam was appointed on that of "Obstetrics," on which he served seven years, and then transferred to that of "Gynecology," of which he was a member for thirteen years, thus covering a period of twenty-two years. The index to our volumes of Transactions contains over sixty references to Dr. Ludlam's contributions. He was President of the Institute in 1869, and General Secretary in 1870 and 1871.

Reuben Ludlam was the son of Dr. Jacob W. Ludlam and was born in Camden, N. J., October 7th, 1831. Under his father's tuition he studied medicine, attended three courses of lectures at the University of Pennsylvania and graduated in March, 1852. In the following autumn he removed to Chicago, where a year after graduating he was practising Homœopathy. On the organization of the "Hahnemann Medical College" at Chicago he was elected to the chair of Physiology and Pathology, his associates in the faculty being Drs. Alvan E. Small, George E. Shipman, John L. Kellogg, Nich. F. Cooke, H. K. W. Boardman and Gaylord D. Beebe, none of whom are living. Dr. Ludlam was Registrar. He was a member of the faculty for thirty-nine consecutive years, probably the longest in service in this country. During this period he had filled the chair of Obstetrics and kindred subjects, as diseases of women and children, medical and surgical diseases of women, most of the time with the exception of the first four years. For many years he was Registrar, then Dean, and since 1892 has been President of the Faculty. In Bradford's "Homœopathic Bibliography" are given the titles

of thirty-five works. He had been connected editorially with the *North American Journal of Homœopathy, Chicago Homœopath, Medical Investigator, United States Medical and Surgical Journal* and *The Clinique.* He had been President of the Western Institute of Homœopathy, Illinois Homœopathic Medical Association, Chicago Academy of Medicine. He was invited to take charge of the Homœopathic Infirmary for Women in New York in 1868, and in 1870 was elected to the chair of Obstetrics and Diseases of Women and Children in the New York Homœopathic Medical College, both of which positions he was obliged to decline. He married Miss Harriet G. Pardin, who, with a son, Reuben Ludlam, Jr., M.D., survives him. Three months prior to his death Dr. Ludlam had undergone an operation for an abdominal tumor, and in the afternoon of April 29th, 1899, while dressed ready to perform a similar operation on a woman at the college hospital, as he was bending over he said "I feel weak," and sinking into a chair hastily placed for him, was carried into an adjoining room, where he soon expired.

JOSEPH SIDNEY MITCHELL, M.D.,

CHICAGO, ILL.

Dr. Mitchell was elected a member of the Institute at the meeting held in Pittsburgh, in 1866. He was appointed on the Bureau of Anatomy and Physiology in 1871. In 1878 he was appointed on the Bureau of Clinical Medicine, and read a paper on "Addison's Disease, With a Clinical Case." He was appointed again in 1881 and the six consecutive years, two of which he was chairman, and again appointed in 1897 and 1898. In 1882 he presented a paper on the "Clinical Aspects of Koch's Discovery." The subject reported on by the Bureau being "Malarial Fevers," he presented a paper on the "Relation of Malaria to Phthisis and Pneumonia," in 1883. "Effects of Alcohol on the Kidneys," "Leucocythemia," "Résumé on Observations on Phthisis," "Pyelitis," were the subjects of papers in connection with the Bureau of Clinical Medicine in the years 1884, '85, '86 and '87. In 1897 he presented a paper on "Typhoid Fever," and in 1898, the last he wrote, "Antipathy." In the years 1885, 1886 and 1898 he was respectively a member of the Bureaus of "Organization," "Microscopy," and "Materia Medica." In 1893 he was chairman of the local committee appointed by the World's Congress of Homœopathic Physicians and Surgeons, and President of the Congress.

Dr. Mitchell was the son of Joseph Mitchell, and was born at Nantucket, Mass., December 9th, 1839. He graduated at Williams College, Mass., in 1863, and studied medicine with Dr. Gaylord B. Beebe, of Chicago, attended lectures at Bellevue Hospital Medical College, New York, sessions of 1864 and 1865, graduating in the latter year. From 1865 to 1875 he was a member of the faculty of the Hahnemann Medical College of Chicago, filling the chairs of "Surgical and Pathological Anatomy," "Physiology," "Physiology, Pathology and Clinical Medicine," "Theory and Practise." In 1876, on the organization of the Chicago Homœopathic College, Dr. Mitchell was elected professor of Clinical Medicine and Diseases of the Throat and Chest, and also President of the college. He continued his association with the college until his death, a period of twenty-two years. Dr. Mitchell was the author of several addresses and essays. He married Miss Helen S. Leeds, of Philadelphia, in 1867. He died November 4th, 1898.

NEHEMIAH WHEELER RAND, M.D.,

MONSON, MASS.

Was elected a member of the Institute in 1881 at Brighton Beach, N. Y. He was the son of Thomas Prentice and Lydia Wheeler Rand, and was born September 14th, 1853, at Francestown, N. H., where he attended the public schools and "Academy." He studied medicine with Drs. Benton and Henry Dearborn, of Milford, and J. K. Warren, of Palmer Mass. He attended lectures at Dartmouth Medical College, Hanover, N. H., in 1875, Boston University School of Medicine, session 1876-7, New York Homœopathic Medical College, 1877-8, graduating therefrom in 1878. He practised in Palmer, Mass., in 1878, removing to Monson the following year where he remained until his death, November 5th, 1898. He married Miss Jenny Peck, July 30th, 1879, and spent a year in Europe, where he attended medical lectures in Vienna. Mrs. Rand died April 21st, 1886, leaving two children. Dr. Rand had been President of the Homœopathic Medical Society of Western Massachusetts and Vice-President of the Worcester County Medical Society. In 1897 a collection of his poetical writings, together with those of his brother, was published under the title of "Random Rimes," of which a second edition has since been published. Dr. Rand was the older brother of our associate, John Prentice Rand, M.D.

JOHN STEPHEN RANKIN, M.D.,

PITTSBURGH, PA.

Was elected a member of the Institute at the meeting in Cincinnati, in 1865, becoming a senior in 1890. He was born in Carroll Co., Ohio, April 7th, 1831. In 1853 he accepted the professorship of mathematics in the St. Clair Institute, near Pittsburgh, Pa., and the following year began the study of medicine with Drs. John C. Burgher and our late associate, Jabez P. Dake, attended lectures at the Homœopathic Medical College of Pennsylvania, 1856-7 and 1857-8, graduating March 2, 1858. He practised at Carlisle, Pa., during the spring and summer of 1858, removing thence to Allegheny where he continued until 1862, when he went to Pittsburgh, becoming associated for a short time with Dr. Marcellin Coté. He was a director of the Homœopathic Medical and Surgical Hospital and Dispensary of Pittsburgh and a member of its medical staff almost from its organization. He was a member of the Homœopathic Medical Societies of the State and County of Allegheny. He was married in 1863 to Miss Louisa Giffen, who, with five sons, survives him. He died of acute pneumonia, after an illness of one week, April 21st, 1899.

MORGAN JOHN RHEES, M.D.,

WHEELING, W. VA.

Wrote he "became a member of the American Institute of Homœopathy by signing the Constitution at a meeting in Philadelphia, 1846." He served on the Bureau of Materia Medica three years, 1858, '59 and '60. In 1853 he communicated a proving of Rhus Laurina. In 1854 he sent a communication on the "Diseases Peculiar to California," more a criticism, however, of the "Symptomen-Codex." In 1858 he contributed a proving of Rumex Crispus. In 1879 a paper was received from him on "Means Employed in Drug Attenuation."

Dr. Rhees was the son of J. Loxley Rhees and was born in Philadelphia, April 15th, 1824. His great-grandfather, Benj. Loxley, was keeper of the King's stores in Philadelphia before the Revolution. His grandfather, Rev. Morgan J. Rhees, in company with Dr. Benj. Rush, purchased land and established a Welsh colony in Cambria County, Pa. In 1834 his parents were converted to Homœopathy by Dr. George H. Butte, of Nazareth, Pa., and in deference to his mother's wishes and against his natural taste for mechanics, he decided to become a physician, went to Nazareth, entered the office of Dr. Butte as a student, acquired a knowledge of German, read Hahnemann's works in the original, and in the fall of 1843 entered Jefferson Medical College, Philadelphia, graduating in March, 1846. In April he began practise at Mount Holly, N. J. After returning from the meeting of the Institute in June he invited all the Homœopathic physicians he knew in the State to meet at his house, where was organized the New Jersey branch of the Institute, with three members. In 1849 he went to California by way of Cape Horn. Unsuccessful in the search for gold, began practising in Stockton in 1851, married Miss Charlotte L. Head, of Boston, October 18th, 1853, and returned to practise in Mount Holly in 1855, where he continued until 1868, when he retired to a farm where he sunk most of his property and was obliged to return to practise, and in 1869 established himself at Hollidaysburgh, Pa., where he remained until 1873, going thence to Newtonville, Mass. After practising here five years, removed to Wheeling, W. Va., where he continued until his death, March 26th, 1899. Dr. Rhees was a frequent contributor of original articles and translations from the German to the *American Homœopathic Review* until he found himself "unable to agree to some of its ideas." He assisted Dr. Hering in proving Glonoine and by translating some of his papers on Kalmia.

ROBERT BRYSON RUSH, M.D.,

SALEM, OHIO.

Among the members elected at the meeting of the Institute at Cincinnati, in 1865, was Dr. Rush, whose punctual attendance at thirty-two consecutive meetings and faithful discharge of obligations are unprecedented and show the pleasure and interest taken in our Association. The last meeting at which we enjoyed his genial presence was at Detroit, in 1896, his condition of health preventing his again being with us. It will be remembered that he was elected a Censor in 1873 and again in 1877, from which time he was a member of the board until his death, and from 1885 until 1895 the Chairman. As a friend remarked "As Censor he may be said to have acted professionally in ministering to the health of the Society. It was thus that his skill told, rather than in speeches or papers, for which he had less aptitude." He was a member of the Bureau of Obstetrics in 1872, when he reported a case of "Puerperal Convulsions," and in 1874 he served on the Bureau of Gynecology.

Dr. Rush was the son of Stephen and Mary Best Rush, the youngest of nine children, and was born near Milton, Northumberland Co., Pa., October 3, 1825. As related by his biographer: "Four winters at the district school, added to the discipline of a meager home, and the lad of twelve must go forth to seek his own. With a sound body, a taste for reading and a 'heart for every fate' he became successively stable-boy, milkman, stage-driver and

carriage-maker, a willing worker at whatever his hand found to do, but aspiring always toward something worthier." He studied medicine with Dr. Samuel Searles, of Newcastle, Pa., the pioneer of Homœopathy in Lawrence County, attended lectures at the Western Pennsylvania Medical College, Pittsburgh, session of 1852-3, and at the Cleveland Homœopathic College, session 1859-60, receiving his diploma in the spring of the latter year. (An unfortunate error occurred in printing the list of graduates in the catalogue of 1868, the name is printed as "Ruych, B. R.," no one taking it for Dr. Rush. The mistake was pointed out and corrected in the recent catalogue, 1899-1900.) He began practise at Springfield, Ohio, about the year 1854, removed to Bryan a year later, and in 1858 located in Salem, where he continued in practise. While Obstetrics may have been the special branch of practise in which he took the greatest interest, surgery certainly was not, it being told of him that when a boy fell from a tree and broke his arm, he rebuked him for climbing, but failed to appreciate him as a "case." He twice visited Europe, in 1861 he attended the "World's Homœopathic Congress" in London, and in 1865 the meeting at Basle, Switzerland. He was a working member of the State and local Homœopathic Societies, was one of eight to organize the Homœopathic Medical Society of the Seventeenth Congressional District of Ohio, of which he had been President and which was afterward united with the Summit and Portage Counties Society to form the Homœopathic Medical Society of Eastern Ohio, of which he was elected President and afterward served fifteen years as Treasurer. Dr. Rush was twice married. In 1847 he married Helen Pitcairn, of Pittsburgh, Pa., who died in 1874, and in 1876 he married Mary Conkle, of Salem, who survives him. He had no children. He died March 28th, 1899.

ORREN STRONG SANDERS, M.D.,

BOSTON, MASS.

At the meeting of the Institute in Boston, in 1859, Dr. Sanders was elected a member. Dr. Sanders was the oldest son of Col. Job Sanders and was born at Epsom, N. H., September 24th, 1820. While working on his father's farm, and, for a short time, at the carpenter's trade, as well as teaching a part of the time, he pursued his preparatory studies at the Academies of Gilmanton and Pembroke. At the age of nineteen he began the study of medicine with Dr. Hanover Dickey, of Epsom and attended his first course of lectures at Dartmouth Medical College, at Hanover, N. H. He afterward studied with Drs. Hays, Chadbourne and Buck, of Concord, attended lectures at Castleton (Vt.) Medical College, graduating therefrom in the fall of 1843, and began practise at Effingham, N. H., removing to Chichester in June, 1845, and from there to Boston in November, 1848, where he entered the office of Dr. Samuel Gregg to study Homœopathy, remaining until May, 1850, when he opened an office on his own account. Dr. Sanders married Miss D. S. Morse, of Effingham, November 27, 1843. He died November 29th, 1898.

JOSEPH HEBER SMITH, M.D.,

BOSTON, MASS.

Was elected a member of the Institute at the meeting in Boston, in 1869. He was a member of the Bureau of Materia Medica in 1881, 1889, when he presented the report as chairman, and in 1896. Dr. Smith was the son of

the Rev. Joseph Smith, and was born in Bucksport, Me., December 5th, 1842. When he was seven years of age his parents removed to Massachusetts and he entered the High School in Charlestown, and later the one at Haverhill, where his studies were interrupted by ill health and were obliged to be continued under private tuition, with the view of preparing him for the ministry, to which profession his father and grandfather belonged. When nineteen years of age his health obliged him to give up the study of theology and he took up that of medicine. He entered the Homœopathic Medical College of Pennsylvania, where he graduated in 1866, and began practise at Melrose, Mass., where he continued until 1882, when he removed to Boston, where he continued in practise until his death, October 23rd, 1898. On the organization of the Boston University School of Medicine in 1873 he was elected one of the professors of Materia Medica, which position he retained during his life. He was a member of the Massachusetts Homœopathic Medical Society and one of the original members of the Boston Homœopathic Medical Society. In 1868 he married Miss Mary A. Green, of Melrose, who, with a son, a student of medicine, and daughter, survives him.

CORNELIA SOMARINDYCKS STETTLER, M.D.,

CHICAGO, ILL.

Was elected a member of the Institute from Aurora, Ill., in 1891, in Atlantic City, N. J. In 1895 she was a member of the Bureau of Obstetrics and presented a paper on "Hydrorrhœa Gravidarum." In the following year, as a member of the Bureau of Gynecology, she read a paper on "Some Abuses of Medical Practise as Applied to the Diseases of Women."

Dr. Stettler was the daughter of Augustus and Elizabeth Slater Somarindycks, and was born in Glen Cove, N. Y., April 11th, 1859. She attended Jenning's Seminary at Aurora, Ill., and later St. Mary's, at Knoxville, Ill. After her marriage with Eugene Stettler, of Philadelphia, September 18, 1878, she took a four years' Chautauqua Course, and after the death of her husband (July 7th, 1888) she began the study of medicine, attended lectures at the Hahnemann Medical College, Chicago, graduating in 1891. For several years she assisted Dr. C. S. Bailey in his clinics. In 1891 she took charge of Dr. Sarah J. Millsop's practise for six months during the latter's absence on account of ill health. Returning to Chicago she became the assistant of Dr. Reuben Ludlam, with whom she remained two years, and in 1894 opened an office in Chicago. She was a member of the Illinois Homœopathic Medical Association and the Clinical Society of the Hahnemann Hospital, Chicago. She attended the Homœopathic Congress in London in 1896, and while on a visit to Europe for a few months' study, she died at sea, August 7th, 1898, leaving one daughter, Miss Augusta Stettler.

WILLIAM STUART TALCOTT, M.D.,

NEW YORK, N. Y.

Who was elected a member of the Institute in 1897, was the son of Samuel Talcott, descendant, sixth removed, of the Worshipful John Talcott, who came from England in 1632 in Rev. Hooker's company, and who built the first house in Hartford, Conn., and was one of its chief magistrates until his death in 1660. His mother was Arenath Morgan, of Lyme, Conn. He was

born in Gilead, Conn., January 3d, 1834. His education was first under the tutelage of his pastor, afterward Monson Academy, followed by Williston Seminary at East Hampton, Mass. He was particularly fond of Latin and chemistry, had a very retentive memory and was always a particular and persistent stickler for pure English. Never strong and deriving no benefit from old-school practise, under the direction of Dr. Carroll Dunham, he bought books and studied Homœopathy. He left his business of commission merchant, traveled several years abroad, and returning home, took up the study of medicine, attended lectures at the New York Homœopathic College and graduated therefrom in 1890. Dr. Talcott was never married. He died July 15th, 1898. at his residence in New York. He left a sister, Dr. Eliza Talcott.

EDWARD ARMACOST WAREHEIM, M.D.,

GLEN ROCK, PA.

Was elected to membership in the Institute in 1892. He was the son of George and Arebella Wareheim, and was born near Manchester, Carroll Co., Md., October 19th, 1844. He received his academic education in Manchester, studied medicine with Dr. Geiger, of Manchester, attended lectures at the New York Homœopathic Medical College where he graduated in 1868 and began to practise at Glen Rock, where he continued until his death, July 11th, 1898. He married Miss Achsah Faust, October 19, 1873, who, with three sons, survives him.

THEODORE COLUMBUS WHITE, M.D.,

ROCHESTER, N. Y.

Was elected a member of the Institute from Detroit, Mich., in 1860, becoming a Senior in 1885. He was a younger brother of Dr. Joseph Ralsey White, of whom a memoir was published in our volume of Transactions for last year. The son of Joseph and Mary Miller White, he was born in Stamford, Conn., in 1834. During his infancy his parents removed to Otsego County, N. Y., where he attended the public schools and later the Gilbertville Academy. He began the study of medicine with Dr. J. W. Cox, of Albany, attended lectures at the Albany Medical College, graduating in 1859. He associated himself in practise with his brother-in-law, Dr. Charles Sumner, of Rochester, with whom he continued about fifteen years. He married Miss Ellen M. Stevens, October 23d, 1890. He was a member of the Monroe County, Western New York and New York State Homœopathic Societies. He was one of the directors of the Rochester Homœopathic Hospital, of which he was consulting physician and president of the staff until his death, November 18th, 1898.

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